SONY KV28CS70

MODEL

SERVICE MANUAL

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE'LANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SECURITÈ!!

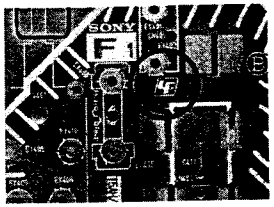
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

CAUTION

Lead Free Soldered Boards

The circuit boards listed below [Table 1] used in these models may have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation e.g. F1, H1 etc [see examples]. The servicing of these boards requires special precautions to be taken as outlined below.

example 1



example 2

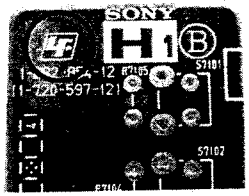


Table 1

Board	Function
A	Video & Audio Processors, Audio Output, Vertical Deflection
C	R,G,B Out
F5	AC In/SIRCS/LED
H6	Front AV Input/Headphone
VM	Velocity Modulation

It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints. Lead Free Solder is available under the following part numbers :

Partnumber	Diameter	Remarks
7-640-005-19	0.3mm	0.25Kg
7-640-005-20	0.4mm	0.50Kg
7-640-005-21	0.5mm	0.50Kg
7-640-005-22	0.6mm	0.25Kg
7-640-005-23	0.8mm	1.00Kg
7-640-005-24	1.0mm	1.00Kg
7-640-005-25	1.2mm	1.00Kg
7-640-005-26	1.6mm	1.00Kg

Due to the higher melting point of Lead Free Solder the soldering iron tip temperature needs to be set to 370 degrees centigrade. This requires soldering equipment capable of accurate temperature control coupled with a good heat recovery characteristics.

For more information on the use of Lead Free Solder, please refer to *http://www.sony-training.com*

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
B	B/G/H, D/K, I, L	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03 , F02-F10, B-Q UHF : E21-E69, F21-F69, B21-B69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
E	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03 UHF : E21-E69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
K	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R1-R12, S01-S03 UHF : E21-E69, R21-R69 CABLE TV : S01-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
U	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

Picture Tube	Flat Display FD Trinitron WIDE: Approx 71 cm (28 inches) (Approx 66 cm picture measured diagonally) KV-28CS70 Approx 82 cm (32 inches) (Approx 76 cm picture measured diagonally) KV-32CS70	**Sound output**	
		Right and Left speaker	2x20W (Music Power) 2x10W (RMS)
		Sub Woofer	1x30W (Music Power) 1x15W (RMS)
Input/Output Terminals [REAR]		**General Specifications**	
1: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals.	Power Requirements	220 - 240V
		Power Consumption	94W/0.4W (KV-28CS70) 102W/0.4W (KV-32CS70)
2: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals. (Monitor Out)	Dimensions	Approx 844x517x548mm (KV-28CS70) Approx 933x562x572mm (KV-32CS70)
		Weight	Approx 43.5kg (KV-28CS70) Approx 60kg (KV-32CS70)
3: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S Video. Outputs of TV Video and Audio signals. (selectable)	Supplied Accessories	RM-932 Remote Commander (1) (KV-28CS70U/KV-32CS70U) RM-947 Remote Commander (1) (KV-28CS70B,E/KV-32CS70B,E,K) IEC designated R6 battery (2)
Phono Jacks	Output Connectors variable for Audio Signals	Other Features	100 Hz picture, Teletext, Sleep Timer, Smartlink, ACI (Auto Channel Installation), Dolby Virtual, BBE, Autoformat
Input/Output Terminals [SIDE]		**Remote Control System : Infrared Control**	
Headphone jack	stereo mini jack	Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Audio inputs	phono jacks		
Video inputs	phono jacks		
S Video input	4 pin DIN		
Design and specifications are subject to change without notice.			

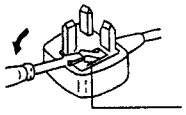
Model Name / Item	KD-28CS70B ~ KD-32CS70B	KD-28CS70E ~ KD-32CS70E	KD-32CS70K	KD-28CS70U ~ KD-32CS70U
Pal Comb	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON
Woofer Box	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON
Scart 3	ON	ON	ON	ON
Front in (4)	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF
Norm B/G	ON	ON	ON	OFF
Norm I	ON	OFF	OFF	ON
Norm D/K	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF
Norm L	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON
Nicam Stereo	ON	ON	ON	ON

WARNING (UK Models only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** rating. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by ASTA to **BS 1362**, ie one that carries the ASTA mark.

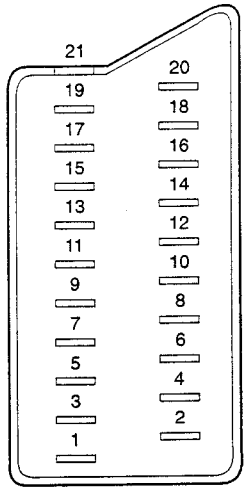
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET.

When an alternative type of plug is used, it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

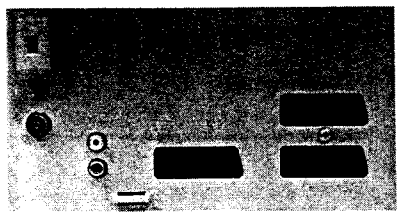
21 pin connector



Pin No	1	2	3	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedence : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedence : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedence : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
	-	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedence : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	-	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

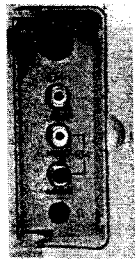
○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Rear Connection Panel



Side Connection Panel

S-Video socket



S Video socket pin configuration		
Pin No	Signal	Signal Level
1	Ground	-
2	Ground	-
3	Y (S signal) input	1V+/- 3dB 75ohm, positive Sync. 0.3V -3 +10dB
4	C (S signal) input	0.3V+/- 3dB 75ohm, positive Sync.

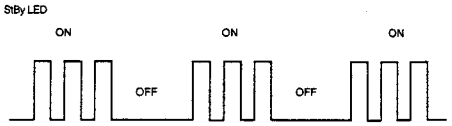
AE-6B SELF DIAGNOSTIC SOFTWARE

The identification of errors within the AE-6B chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1, non fatal errors are reported using this method.
Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

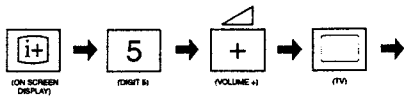
Error Message	LED Code
No error	00
Reserved	01
OCP (Over Current Protection)	02
Over Voltage Protection	03
No Vertical Sync	04
IKR Error at power on	05
IIC bus clock and/or data lines low at power on	06
NVM no IIC bus acknowledge at power on	07
Horizontal Protection	08
Tuner no acknowledge at power on	09
Sound Processor Error	10
Reserved	11
Scanrate Error	12
DAC Error	13
Backend Error	14
Dynamic Convergence Error	15
PIP Error	16

Flash Timing Example : e.g. error number 3



How to enter into Table 2

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.



'TT—' will appear in the upper right corner of the screen. Other status information will also be displayed.

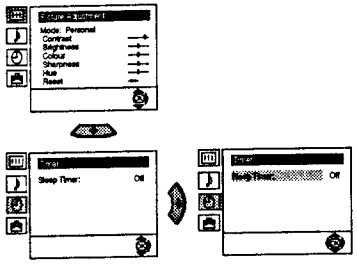
3. Press 'MENU' on the remote commander to obtain the Service menu on the screen.
4. Using the Remote Commander, Scroll to the 'Error Menu' item using the down arrow key, then press the right arrow key.
5. The following table will be displayed indicating the error count.

Table 2

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	3
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	HPROT	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	-	(0, 255)	0
E12	SCANRATE	(0, 255)	1
E13	DAC	(0, 255)	1
E14	BACKEND	(0, 255)	1
E15	-	(0, 255)	0
E16	PIP	(0, 255)	0
WORKING TIME			
HOURS			14
MINUTES			3

Note: To clear the error count data press '80' on the Remote commander.

Level 1	Level 2	Level 3 / Function

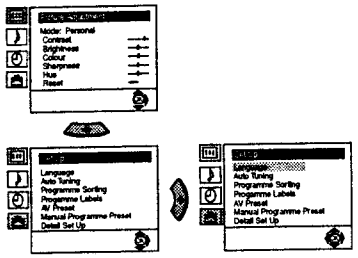


SLEEP TIMER

The "Sleep Timer" option in the "Timer" menu allows you to select a time period for the TV to automatically switch itself into the standby mode.

To do this:
After selecting the option, press the ➧ button then press the ↓ or ↑ button to set the time period delay (max. of 4 hours) and finally press the **OK** button to store.

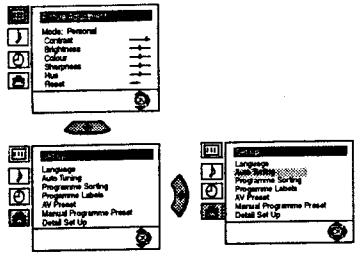
- While watching the TV, you can press the ⊞ button on the remote control to display the time remaining.
- One minute before the TV switches itself into standby mode, the time remaining is displayed on the TV screen automatically.



LANGUAGE

The "Language" option in the "Set Up" menu allows you to select the language in which the menus are displayed.

To do this:
After selecting the option, press the ➧ button then proceed in the same way as in step 2 of the section "Switching On the TV and Automatically Tuning" on page 7.



AUTO TUNING

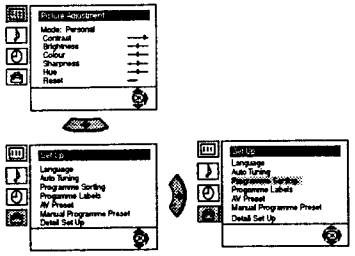
The "Auto Tuning" option in the "Set Up" menu allows you to automatically search for and store all available TV channels.

To do this:
After selecting the option, press the ➧ button then proceed in the same way as in TV steps 4 and 5 of the section "Switching On the TV and Automatically Tuning" on page 7 and 8.

continued...

GB

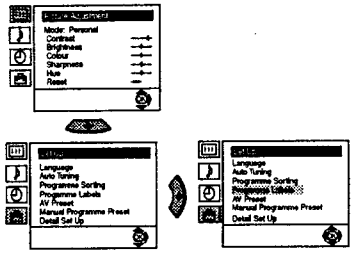
Level 1	Level 2	Level 3 / Function



PROGRAMME SORTING

The "Programme Sorting" option in the "Set Up" menu allows you to change the order in which the channels (TV Broadcasts) appear on the screen.

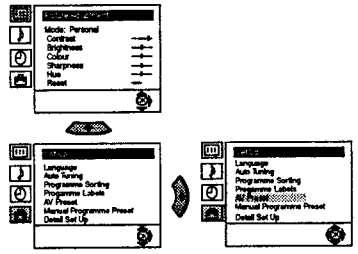
To do this:
After selecting the option, press the ➧ button then proceed in the same way as in step 6 b) of the section "Switching On the TV and Automatically Tuning" on page 8.



PROGRAMME LABELS

The "Programme Labels" option in the "Set Up" menu allows you to name a channel using up to five characters (letters or numbers).

To do this:
1 After selecting the option, press the ➧ button, then press the ↓ or ↑ buttons to select the programme number of the channel you wish to name.
2 Press ➧ button. With the first element of the **Label** column highlighted, press ↓ or ↑ buttons to select a letter or number (select "-" for a blank), then press the ➧ button to confirm the character. Select the other four characters in the same way. Finally press the **OK** to store.



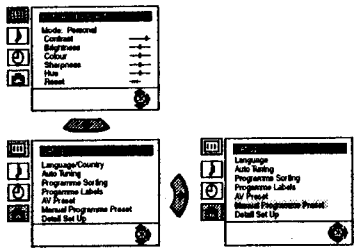
AV PRESET

The "AV Preset" option in the "Set Up" menu allows you to designate a name to the external equipment you have connected to the sockets of this TV.

To do this:
1 After selecting the option, press the ➧ button, then press the ↓ or ↑ buttons to select the input source you wish to name (**AV1, AV2** and **AV3** represent the rear Scart sockets and **AV4** is for the side connectors). Then press the ➧ button to confirm.

2 A predefined label automatically appears in the label column:
   a) If you want to use one of the 6 predefined labels (**CABLE, GAME, CAM, DVD, VIDEO** or **SAT**), press the ↓ or ↑ buttons to select the desired label, then press **OK** button to store.
   b) If you want to set a different label, select **Edit** and press ➧ button. Then with the first element highlighted, press the ↓ or ↑ buttons to select a letter, number or "-" for a blank, then press ➧ button to confirm the character. Select the other four characters in the same way. Finally press the **OK** button to store.

Level 1	Level 2	Level 3 / Function



MANUAL PROGRAMME PRESET
The "Manual Programme Preset" option in the "Set Up" menu allows you to:

a) Preset channels or the VCR channel one by one to the programme order of your choice.

To do this:
1 After selecting the "Manual Programme Preset" option, press the ➡ button then with **Programme** option highlighted press the ➡ button.
Press the ⬇ or ⬆ buttons to select which programme number you want to preset the channel to (for VCR, select programme number "0"). Then press the ➡ button.

2 After selecting the **Channel** option, press the **OK** button. Next press the numbered buttons to directly enter the channel number of the TV Broadcast or the VCR channel. If you do not know the channel number, press the ⬇ or ⬆ buttons to search for it. When you have tuned to the desired channel, press the **OK** button twice to store.

Repeat all the above steps to tune and store more channels.

b) Label a channel using up to five characters.

To do this:
After highlighting the **Programme** option, press the **PROG +/-** button to select the programme number of the channel you wish to name. When the programme you want to name appears on the screen, select the **Label** option and press ➡ button. Next press the ⬇ or ⬆ buttons to select a letter, number or "-" for a blank. Press the ➡ button to confirm the character. Select the other four characters in the same way. After selecting all the characters, press the **OK** button twice to store.

c) Manually fine tune the TV to obtain a better picture reception if the picture is distorted.
Normally the automatic fine tuning (AFT) is in operation, but you can alter it manually.

To do this:
Whilst watching the channel (TV Broadcast) you wish to fine tune, select the **AFT** option and press ➡ button. Next press the ⬇ or ⬆ buttons to adjust the fine tuning between -15 and +15. Finally press the **OK** button twice to store.

d) Skip any unwanted programme numbers when they are selected with the PROG +/- buttons.

To do this:
After highlighting the **Programme** option, press the **PROG +/-** button to select the programme number you want to skip. When the programme you want to skip appears on the screen, select the **Skip** option and press the ➡ button. Next press the ⬇ or ⬆ buttons to select **Yes**. Finally press the **OK** button twice to confirm and store.
To cancel this function later on, select "No" instead of "Yes" in the step above.

GB

Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

Teletext errors may occur if you use a channel (TV Broadcast) with a weak signal.

To Switch on Teletext:
After selecting the TV channel which carries the teletext service you wish to view, press the ▤ button.

To Select a Teletext page:
Input the 3 digits of the page number, using the numbered buttons.
- If you have made a mistake, retype the correct page number.
- If the counter on the screen continues searching, it is because the page is not available.
  In that case, input another page number.

To access the next or preceding page:
Press **PROG +** (▤) or **PROG -** (▤) buttons.

To superimpose teletext onto the TV:
Whilst you are viewing teletext, press the ▤ button. Press again to cancel teletext mode.

To freeze a teletext page:
Press the ⊖/⊕ button. Press again to cancel freeze.

To reveal concealed information (e.g: answer to a quiz):
Press the ⊕/? button. Press again to conceal the information.

To select a sub page:
A teletext page may consist of several sub pages. In this case the page number that appears on the upper left corner changes colour from yellow to green, and one or more arrows will appear next to the page number. Repeatedly press the ➡ or ➡ buttons on the remote control to watch the desired sub page.

To Switch Off Teletext:
Press ▢ button.

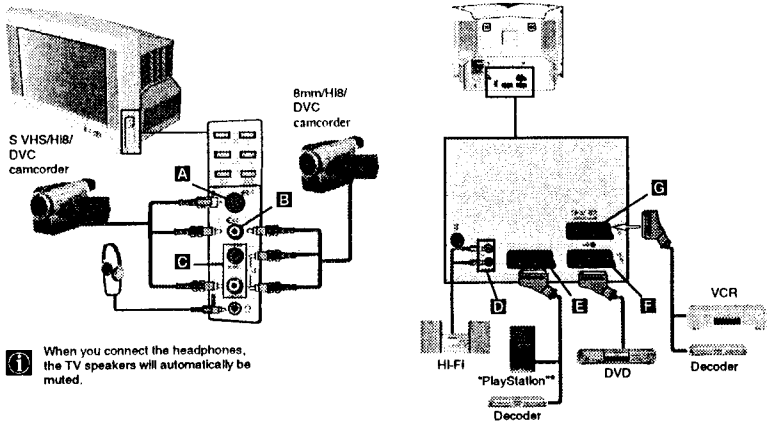
GB

Fastext

The Fastext service lets you access pages with one button push.
While you are in Teletext mode and providing Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press one of the coloured buttons (red, green, yellow or blue) to access the corresponding page.

Connecting Additional Equipment

Using the following instructions you can connect a wide range of optional equipment to your TV set. (Connecting cables are not supplied).



When you connect the headphones, the TV speakers will automatically be muted.

* "PlayStation" is a product of Sony Computer Entertainment, Inc.
* "PlayStation" is a trademark of Sony Computer Entertainment, Inc.

- To avoid picture distortion, do not connect external equipment to connectors A and B at the same time.
- Do not connect a Decoder to the Scart connector F.
- Games that use a "gun" attachment to point at the screen do not work correctly due to the 100Hz technology used in this television

Connecting a VCR:

To connect a VCR, please refer to the section "Connecting the aerial and VCR" of this instruction manual. We recommend you connect your VCR using a Scart lead. If you do not have a Scart lead, tune in the VCR test signal to the TV programme number "0" by using the "Manual Programme Preset" option. (for details of how to manually programme these presets, see page 13, step a).
Refer to your VCR instruction manual to find out the output channel of your VCR.

Connecting a VCR that supports Smartlink:

Smartlink is a direct link between the TV set and the VCR. For more information on Smartlink, please refer to the instruction manual of your VCR.
If you use a VCR that supports Smartlink, please connect the VCR by using a Scart lead to the Scart socket ⊂3/⊃3 G.

continued...

Lifting the TV Set

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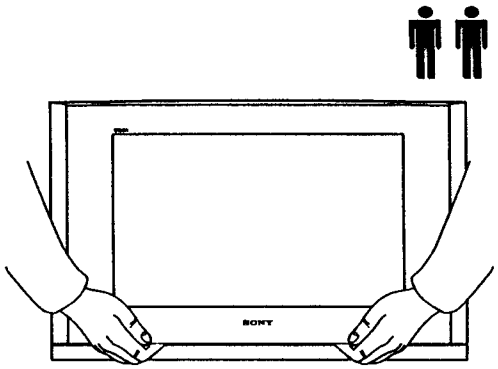
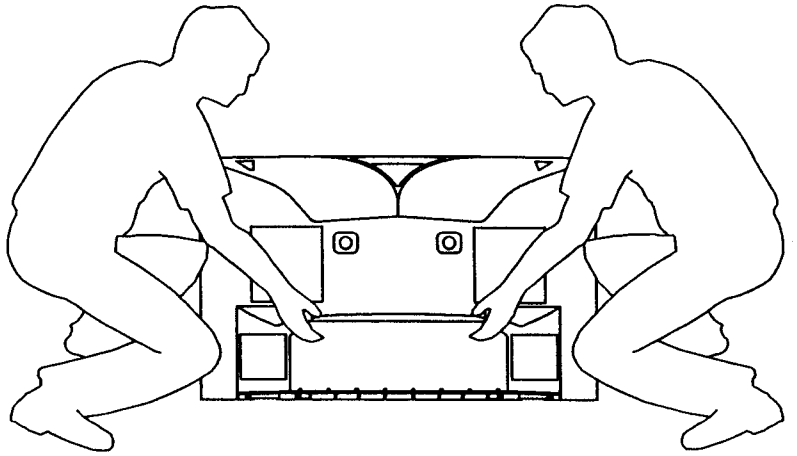




Specifications

TV system	I
Colour System	PAL, SECAM, NTSC 3.58, 4.43 (Video In only)
Channel Coverage	UHF: B21-B69
Picture Tube	Flat display FD Trinitron WIDE 28" (Approx. 71 cm measured diagonally) 32" (Approx. 82 cm measured diagonally)
Rear Terminals	⇨1/⇦1 21-pin Scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output ⇨2/⇦2 21-pin Scart connector (CENELEC standard) including audio/video input, RGB input, monitor audio/video output ⇨3/⇦3 (SMARTLINK) 21-pin Scart connector (CENELEC standard) including audio/video input, S-video input, selectable audio/video output and Smartlink interface ⇦ Audio outputs (Left/Right) - phono jacks
Side terminals	⇦ 4 S Video input - 4 pin DIN ⇦ 4 Video input - phono jack ⇦ 4 Audio input - phono jacks Headphones jack
Sound Output	2 x 20W (Music Power), 2 x 10W (RMS) Woofer: 30W (Music Power), 15W (RMS)
Power Consumption	KV-28CS70 94W KV-32CS70 102W
Standby Power Consumption	KV-28CS70 0.4W KV-32CS70 0.4W
Dimensions (WxHxD)	KV-28CS70 Approx. 844mm x 517mm x 548mm KV-32CS70 Approx. 933mm x 562mm x 572mm
Weight	KV-28CS70 Approx 43.5Kg KV-32CS70 Approx. 60Kg
Accessories Supplied	1 Remote Control (RM-932), 2 batteries (IEC designated)
Other Features	• 100Hz picture • Teletext, Fastext, TOPtext (250 page TEXT memory) • Sleep Timer • Smartlink (direct link between your TV set and a compatible VCR. For more information on Smartlink, please refer to the Instruction Manual of your VCR) • ACI (Auto Channel Installation) • Dolby Virtual • BBE • Autoformat

Design and specifications are subject to change without notice.

GB

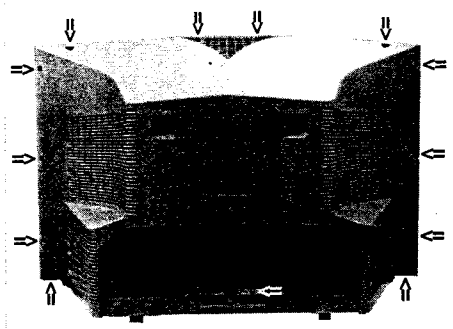
Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

Problem	Suggested Remedy
No picture (screen is dark), and no sound.	• Check the aerial connection. • Plug the TV in and press the ⏻ button on the front of the TV. • If the standby indicator ⏻ is on press the I/⏻ button or a numbered button on the remote control.
Poor or no picture (screen is dark), but good sound.	• Using the MENU system, select the "Picture Adjustment" display and select "RESET" to return to the factory settings.
No picture or menu information from equipment connected to the Scart socket.	• Check that the optional equipment is on, and press the ⇦ button of the remote control repeatedly until the correct input symbol is displayed on screen.
Good picture, no sound.	• Press the ◿ button on the remote control. • Check that "TV Speakers" is "On" in the "Detail Set Up" menu. • Check the Headphones are not connected.
No colour on colour programmes.	• Using the MENU system, select the "Picture Adjustment" and select "RESET" to return to the factory settings.
Distorted picture when changing programmes or selecting Teletext.	• Turn off any equipment connected to the scart connectors on the rear of the TV.
Wrong characters appear when viewing teletext.	• Using the menu system, display the "Language/Country" menu and select the country in which you are operating the TV set.
Picture slanted.	• Using the menu system, select the "Picture Rotation" option in the "Detail Set Up" menu to correct the picture slant.
Snowy picture when viewing a TV channel.	• Using the menu system, select the "Manual Programme Preset" menu and adjust Fine Tuning (AFT) to obtain better picture reception. • Using the menu system, select the "Noise Reduction" option in the "Detail Set Up" menu and select "Auto" to reduce the noise in the picture.
No unscrambled picture whilst viewing un unscrambled channel with a decoder connected through the scart connector ⇨3/⇦3.	• Using the menu system, display the "Set Up" menu. Then select the "Detail Set Up" option and set "AV3 Output" to "TV". • Check that the decoder is not connected to the ⇨2/⇦2 scart socket.
Remote control does not function.	• Replace the batteries.
The standby indicator ⏻ on the TV flashes.	• Contact your nearest Sony service centre.

- **If you continue to have problems, have your TV serviced by qualified personnel.**
- **NEVER open the casing yourself.**

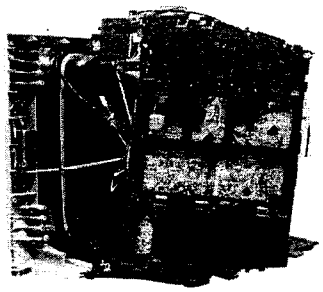
2-1. Rear Cover Removal



Remove the rear cover fixing screws indicated and pull the rear cover backwards away from the set.

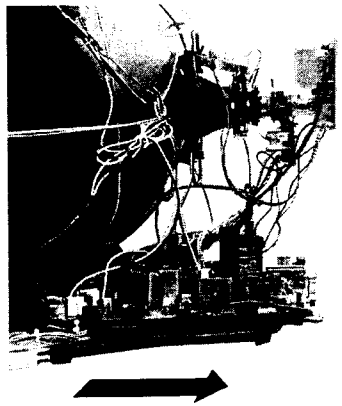
Note: Before removing the rear cover completely, disconnect the speaker connector which is located on the inside of the set.

2-2. Service Position

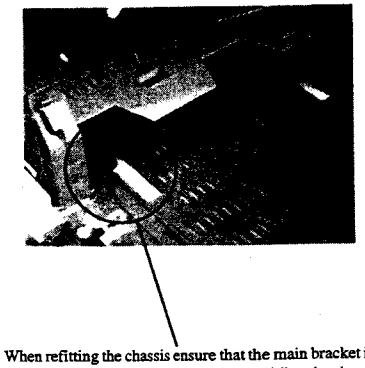


Position the chassis as indicated to access the solder side of the PWB's. To gain access to the underside of the boards follow the instructions on page 16. [Removal and Replacement of the main bracket bottom plates].

2-3. Chassis Removal and Refitting

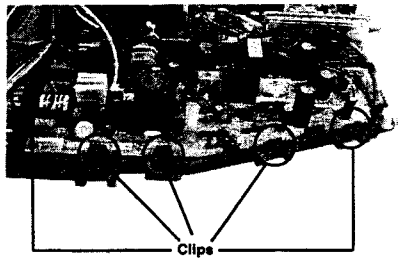


To remove lift the main bracket rear slightly and slide the chassis away from the beznet. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.



When refitting the chassis ensure that the main bracket is located in the beznet guide slots before sliding the chassis forwards. Refit the inter-connecting leads in their respective purse locks.

2-4. G Board Removal

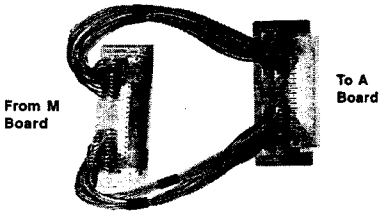


To remove the G Board release the clips circled and remove the screw from the middle of the board, then ease the board gently away from the support bracket.
Removal of the D board follows the same procedure.

2-5. M Board Removal

To remove the M Board gently release the two clips with a screwdriver and remove the board from its socket vertically.

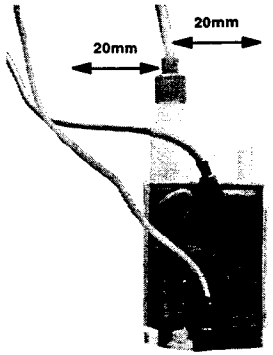
2-6. Service Connector for M Board



Extender Board Assembly A-1642-293-A

If the M Board needs to be removed for testing when the chassis is placed in its service position, it would be necessary to use an extender board and extension cable as indicated above.
The Extender board and extension cable are available as a service part by ordering the part number as indicated.

2-7. Wire Dressing

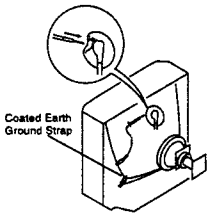


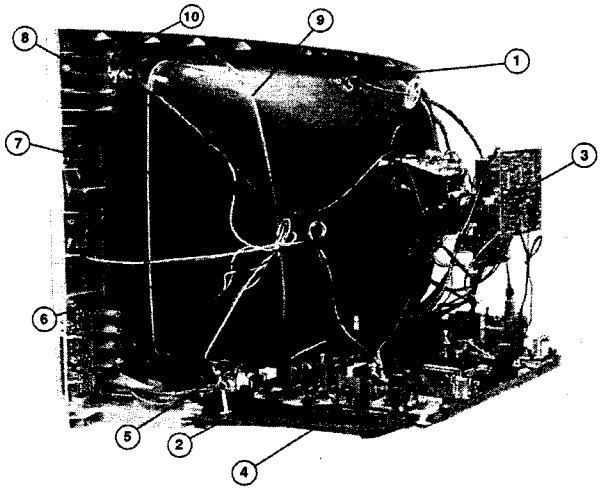
Ensure that wires do not touch heatsinks and high temperature hotspots. All wires must be kept at a minimum distance of 20mm away from the EHT lead

2-8. Picture Tube Removal

WARNING:
BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT ***before*** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

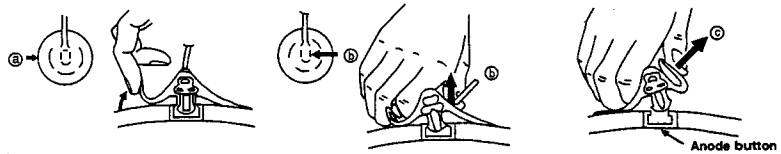




1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the Deflection yoke, neck assy, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the Neck assembly fixing screw and remove.
6. Loosen the Deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the Degaussing Coil holders.
8. Remove the Degaussing Coils.
9. Remove the CRT grounding strap and spring tensioners.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT.
    [Take care not to handle the CRT by the neck.]

Removal of the Anode-Cap

REMOVAL PROCEDURE.



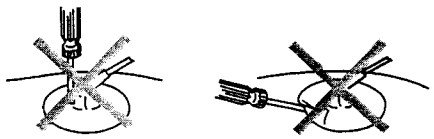
(1) Turn up one side of the rubber cap in the direction indicated by the arrow (a)

(2) Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)

(3) When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow (c)

How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.

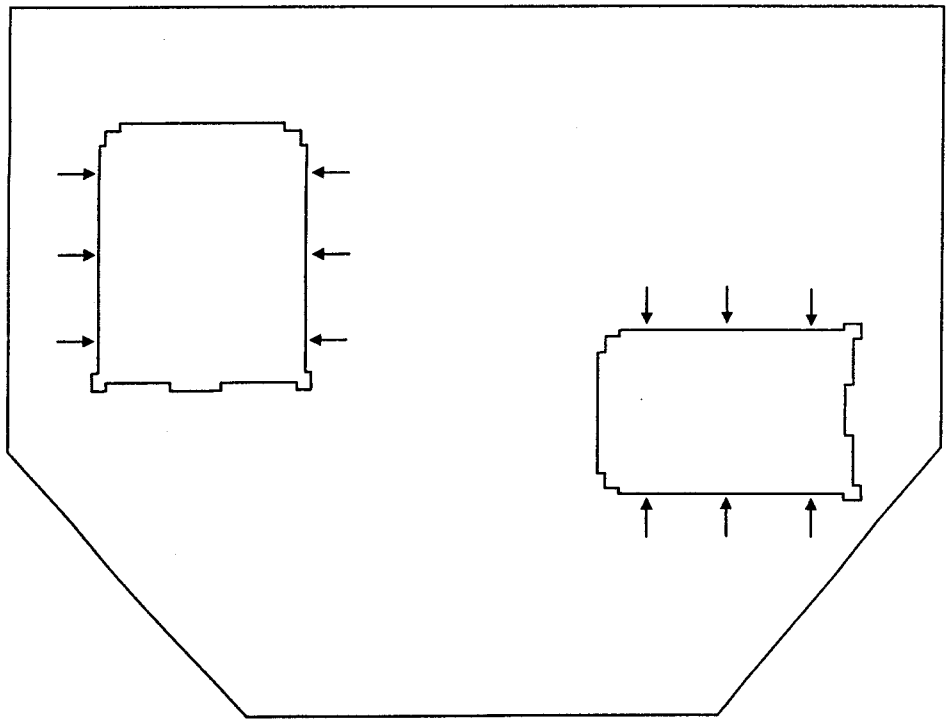


REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the printed wiring boards, the bottom plates fitted to the main chassis bracket require to be removed. This is performed by cutting the gates with a sharp wire cutter at the locations indicated by the arrows.

Note : There are 2 plates fitted to the main bracket. Only remove the necessary plate to gain access to the printed wiring board.

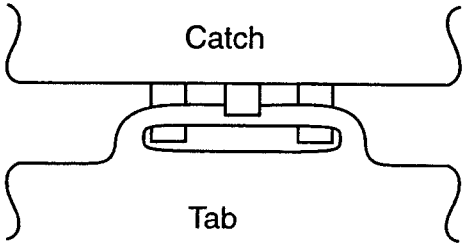


⚠ For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from their cut position to allow the tabs to be fitted into their catch positions.



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast ..... 80% [or remote control normal]

Brightness 50%

Carry out the adjustments in the following order :

3-1. Beam Landing.
3-2. Convergence.
3-3. Focus.
3-4. White Balance.

Note : Test equipment required.

1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

3-1. Beam Landing

1. Input an all white signal from the pattern generator. Set the Contrast and Brightness to normal.
2. Set the pattern generator raster signal to Red.
3. Move the deflection yoke forward and adjust with the purity control so that the Red is at the centre and the Blue and Green take up equally sized areas on each side of the screen. [See Fig.3-1 - 3-3].
4. Move the deflection yoke backwards and adjust so that the entire screen becomes Red. [See Fig.3-1]
5. Switch the raster signal to Blue, then to Green and verify the condition.
6. When the position of the deflection yoke has been determined, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to correct it. [See Fig.3-4]

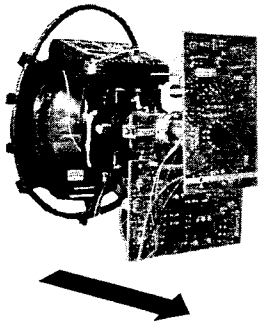


Fig. 3-1.

Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

Fig. 3-2.

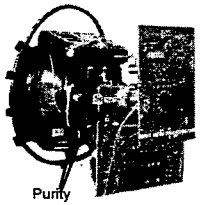
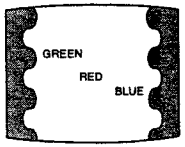


Fig. 3-3.



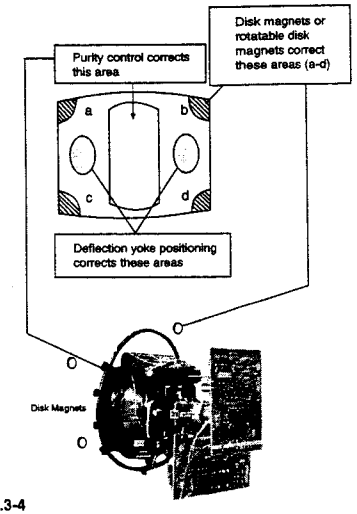


Fig.3-4

3-2. Convergence

Preparation:

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the Brightness setting.
- Input a dot pattern from the pattern generator.

Horizontal and Vertical Static Convergence

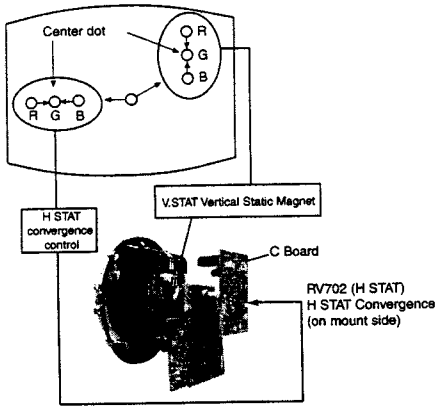
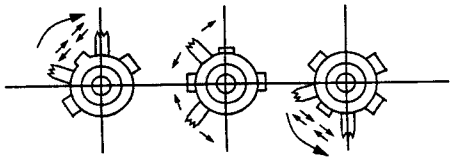


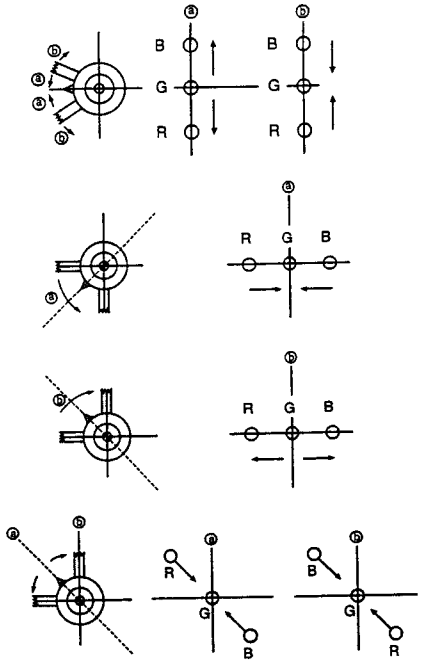
Fig.3-5

1. [Moving horizontally], adjust the H.STAT control so that the Red, Green and Blue points are on top of each other at the centre of the screen.
2. [Moving vertically], adjust the V.STAT magnet so that the Red, Green and Blue points are on top of each other at the centre of the screen.
3. If the H.STAT variable resistor is unable to bring the Red, Green and Blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner indicated below.
   [In this case, the H.STAT variable resistor and the V.STAT magnet influence each other].

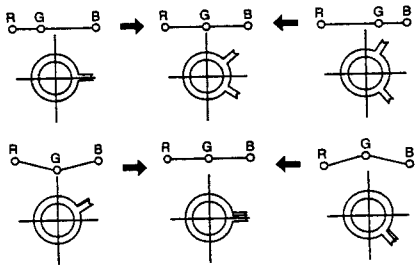
   - Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue points move as indicated below.



Operation of the BMC (Hexapole) magnet



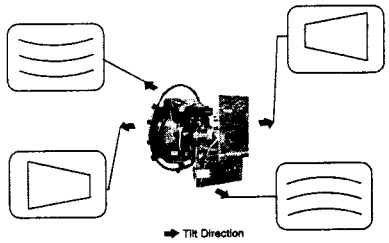
The movement of the magnets interact with each other and so the respective dot position should be monitored while carrying out this adjustment.
Use the H.STAT VR to adjust the Red, Green and Blue dots so that they coincide at the centre of the screen
(by moving the dots in the horizontal direction).

Geometry Adjustment

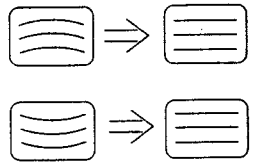
Preparation:

Before starting this adjustment, adjust the horizontal and vertical static convergence.

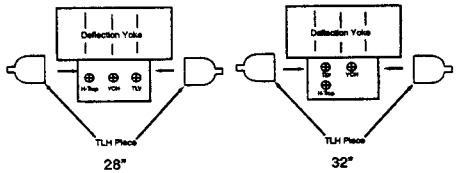
1. Remove the deflection yoke spacer.
2. Tilt the deflection yoke as indicated in the figure below and optimise the geometry.
   Tilting the DY Up and Down a small amount will balance the upper and lower pin adjustment.
3. Re-install the deflection yoke spacers. Ensure 4 DY spacers are reinserted



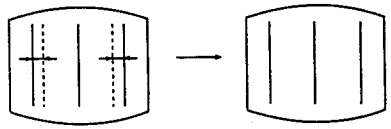
4. The H-Trap and T-B Pin may not achieve a good level due to a small tilt allowance on the square DY. Keep the DY in a straight position and adjust H-Trap pot (See diagram for HTIL Adjustment) and Y-Mg for T-B Pin, as below.



HTIL Adjustment



HTIL correction can be performed by adding **one** TLH correction assembly to the Deflection yoke.



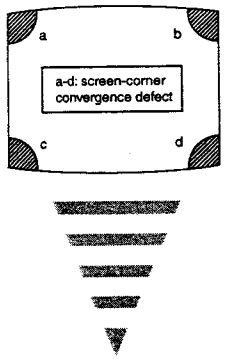
• APH Convergence parameter is electrically controlled. For this reason a TLH piece may not be required.
(APH = Red vertical lines on the edge of the screen).

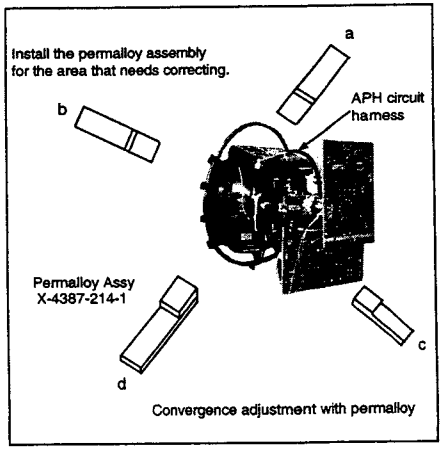
YCH Adjustment

TLV Adjustment

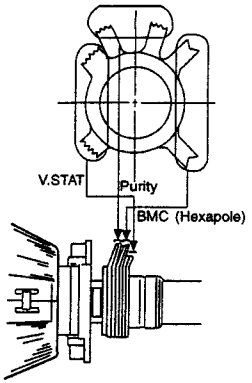
Screen Corner Convergence

If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.



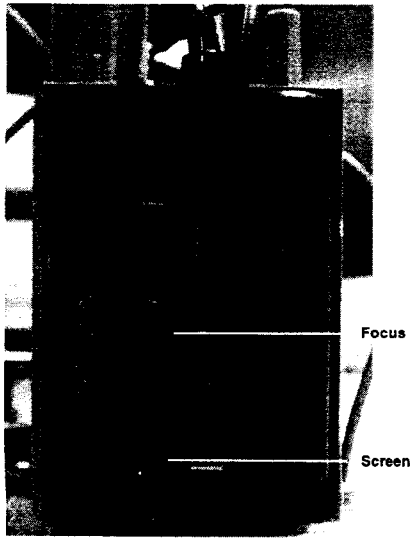


Layout of each control



3-3. Focus Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. Screen (G2), White Balance

[Adjustment in the service mode using the remote commander]

G2 adjustment

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 165V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control [SCREEN] located on the flyback transformer to the point just before the flyback return lines disappear.

White balance adjustment for TV mode

1. Input an all-white signal from the pattern generator.
2. Set the TV set or operation in Service Mode.
   [See Page 21].
3. Select 'Service' from the on screen menu display and press 'Right Arrow'.
4. The 'Service' menu will appear on the screen.[See Page 21]
5. Set the 'Subcont' to MAX.
6. Set the 'R-Drive' to 50.
7. Adjust the 'G-Drive' and the 'B-Drive' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the 'Subcont' to MIN.
10. Adjust the 'Cutoff Br.' with the left and right buttons on the remote commander so that the white balance becomes optimum.
11. Press the 'OK' button to write the data.

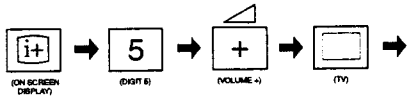
SECTION 4 CIRCUIT ADJUSTMENTS

4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied remote Commander RM-947 (KV-28/32CS70B, KV-28/32CS70E, KV-32CS70K) or RM-932 (KV-28/32CS70U).

How to enter into the Service Mode

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.



'TT—' will appear in the upper right corner of the screen. Other status information will also be displayed.

3. Press 'MENU' on the remote commander to obtain the following menu on the screen.

```
Geometry
Panorama
Service
Scanrate
DAC
PIP
Sound
IF adjust
Error Menu

AE6B Wide v4.25 (Dic 03)
Factory data 10h 0Fh
MSP/Scan/IFOB: MSP3411G/9402-1B3/ON
```

4. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.
5. Press the right arrow button to enter into the required menu item.
6. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note :

- After carrying out the service adjustments, to prevent the customer accessing the 'Service Menu' switch the TV set OFF and then ON.

GEOMETRY

ABL TH	(0, 3)	0
ABL MODE	(0, 3)	0
P ABL	(0, 15)	15
V SIZE	(0, 63)	24
V POSITION	(0, 63)	27
V COMP	(0, 3)	1
V LIN	(0, 15)	8
S CORRECTION	(0, 15)	8
H SIZE	(0, 63)	33
PIN AMP	(0, 63)	15
HCOMP	(0, 3)	0
UP CORNERPIN	(0, 63)	34
M PIN	(0, 3)	2
LO CORNERPIN	(0, 63)	38
TRAPEZIUM	(0, 15)	5
H POSITION	(0, 63)	38
AFC BOW	(0, 15)	6
AFC ANGLE	(0, 15)	8
LEFT BLK	(0, 63)	34
RIGHT BLK	(0, 63)	19
V ASPECT	(0, 63)	26
AKBTIM1	(0, 3)	2
AKBTIM2	(0, 1)	0
IKR		*1*
HNG		*0*
VNG		*0*

PANORAMA

HORWIDTH H	(0, 7)	1
HORWIDTH L	(0, 255)	170
HORPOS H	(0, 7)	0
HORPOS L	(0, 255)	15
NAPPLIP H	(0, 7)	1
NAPPLIP L	(0, 127)	62
HSCPOSC H	(0, 15)	8
HSCPOSC L	(0, 255)	151
BLANDEL	(0, 255)	13
BLANLEN	(0, 255)	207
BLANPOL	(0, 1)	0
HSEG1 H	(0, 7)	0
HSEG1 L	(0, 255)	96
HSEG2 H	(0, 7)	0
HSEG2 L	(0, 255)	192
HSEG3 H	(0, 7)	0
HSEG3 L	(0, 255)	224
HSEG4 H	(0, 7)	1
HSEG4 L	(0, 255)	64
HINCO H	(0, 1)	0
HINCO L	(0, 255)	40
HINC1 H	(0, 1)	0
HINC1 L	(0, 255)	20
HINC2 H	(0, 1)	0
HINC2 L	(0, 255)	0
HINC3 H	(0, 1)	1
HINC3 L	(0, 255)	236
HINC4 H	(0, 1)	1
HINC4 L	(0, 255)	216

IF ADJUST		
Automute		1
Audio Gain		0
L Gating		0
AGC TOP	(-16, +15)	-6

SERVICE		
SUB COL	(0, 63)	Adj
SUB HUE	(0, 63)	31
SUB SHARP	(0, 63)	30
SUB BRIGHT	(0, 63)	13
SUB CONT	(0, 15)	12
R-DRIVE	(0, 63)	50
G-DRIVE	(0, 63)	Adj
B-DRIVE	(0, 63)	Adj
R CUTOFF	(0, 63)	28
G CUTOFF	(0, 63)	24
B CUTOFF	(0, 63)	46
Br TXT	(0, 15)	7
Br OSD	(0, 15)	10

DAC		
CONFIG	*00000000*	
MPIN CONT	(0, 255)	96
HLIN	(0, 255)	83
HTRAP	(0, 255)	127
ROT. COIL	(0, 255)	130
PHOCUS PH	(0, 255)	90

SOUND		
M-N	(0, 511)	200
M-D	(-128, -1)	-20
M-S	(+0, +127)	+20
S-M	(+0, +127)	+10
D-M	(-128, -1)	-10
N-M	(0, 1023)	496
BBE	(+0, +68)	+28
B1	(-96, +96)	+0
B2	(-96, +96)	+0
B3	(-96, +96)	+0
B4	(-96, +96)	+0
B5	(-96, +96)	+0
SW L	(-128, +0)	+0
SW F	(+5, +40)	+30
NICAM C AD	00000	
NICAM Error	(0, 2047)	0
Stereo	(-128, +127)	+0
Status	0000000110	

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	3
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	HPROT	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	-	(0, 255)	0
E12	SCANRATE	(0, 255)	1
E13	DAC	(0, 255)	1
E14	BACKEND	(0, 255)	1
E15	-	(0, 255)	0
E16	PIP	(0, 255)	0
WORKING TIME			
HOURS			14
MINUTES			3

Sub Brightness Adjustment

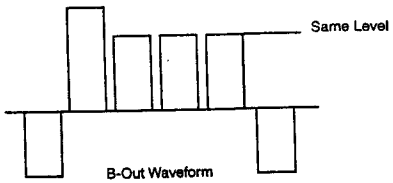
1. Input a Monoscope pattern.
2. Set the TV set or operation in Service Mode. [See Page 21].
3. Select 'Service' from the on screen menu display and press 'Right Arrow'.
4. The 'Service' menu will appear on the screen.
5. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J7375 [C Board].
3. Set the TV set or operation in Service Mode. [See Page 21].
4. Select 'Service' from the on screen menu display and press 'Right Arrow'.
5. The 'Service' menu will appear on the screen.
6. Adjust the Sub-Contrast to obtain a voltage of 105 +/- 5V.

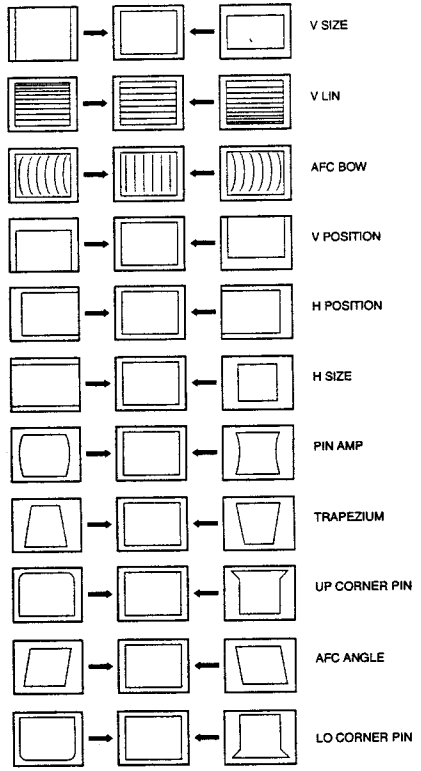
Sub Colour Adjustment

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 6 of CN7001 [A Board].
3. Set the TV set or operation in Service Mode. [See Page 21].
4. Select 'Service' from the on screen menu display and press 'Right Arrow'.
5. The 'Service' menu will appear on the screen.
6. Adjust the 'Sub Colour' sothat the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.



Deflection System Adjustment

1. Set the TV set or operation in Service Mode. [See Page 21].
2. Select 'Geometry' from the on screen menu display and press 'Right Arrow'.
3. The 'Geometry' menu will appear on the screen.[See Page 21]
4. Select and adjust each item in order to obtain the optimum image.

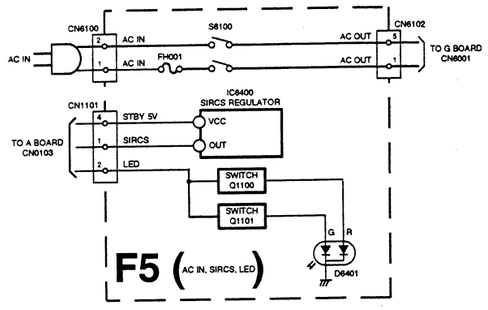


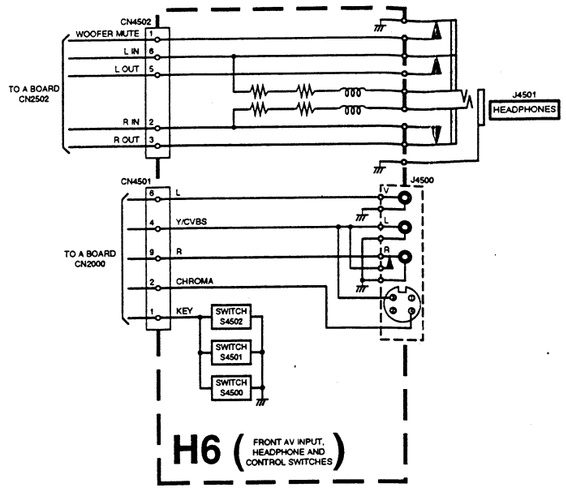
4-2. TEST MODE 2:

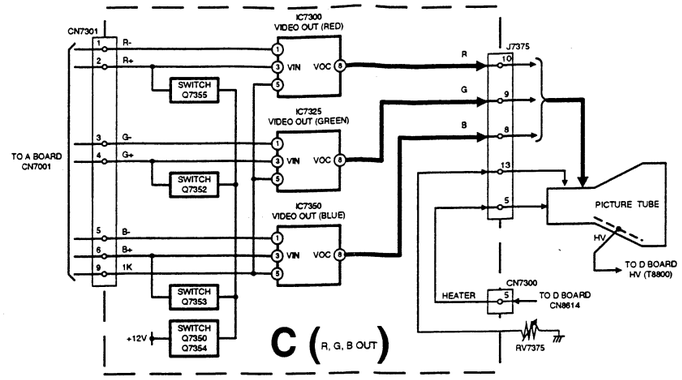
Test Mode 2 is available by setting the TV for operation in Service Mode [As shown on Page 21] , OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 00, 10, 20 ... twice or switch the TV set into Stand-by mode. In 'TT Menu' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

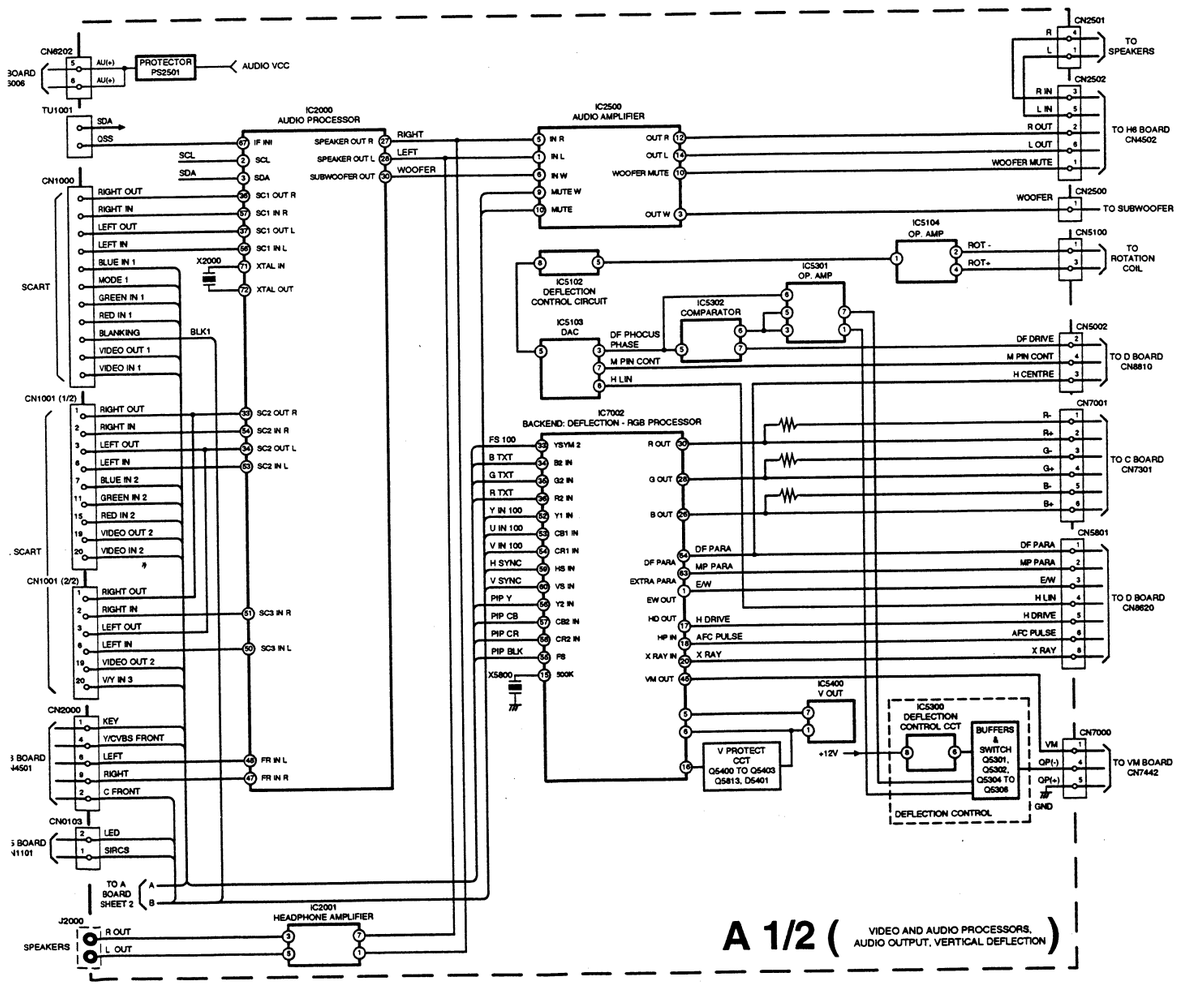
00	TT mode off
01	Picture maximum
02	Picture minimum
03	Set speaker/headphone Volume to 35%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing mode
08	Shipping Condition
11	Sub picture adjustment
12	Sub colour adjustment
13	Sub Brightness adjustment
14	Text H Position adjustment
15	Rotation Coil Test
16	Picture level 50%
19	Factory Mode Enable/Disable
21	Destination ADEKR
22	Destination BL
23	Destination ADEKR
24	Destination U
25	Destination ADEKR
26	Destination BL
27	Destination ADEKR
28	Destination ADEKR
31	Auto Shutoff Enable/Disable
36	Velocity Modulation (VM) OFF/ON test
41	Re-initialise NVM
43	Select Dual A sound
44	Select Dual B sound
45	Select Mono sound
46	Select Stereo sound
48	Set NVM as non virgin
49	Set NVM as virgin
53	FM Overmodulation Enable/Disable
55	Tuner selection (SONY/ALPS)
59	Select Model 3 Scarts + PIP or 2 Scarts
68	Enable/Disable X26 countermeasure (N problem)
73	Enable Zweiton D/K2 system (6.5/6.74)
74	Enable Zweiton D/K3 system (6.5/5.74)
78	Balance full right
79	Balance full left
87	Local keys test
99	Display Error and Working Time menu

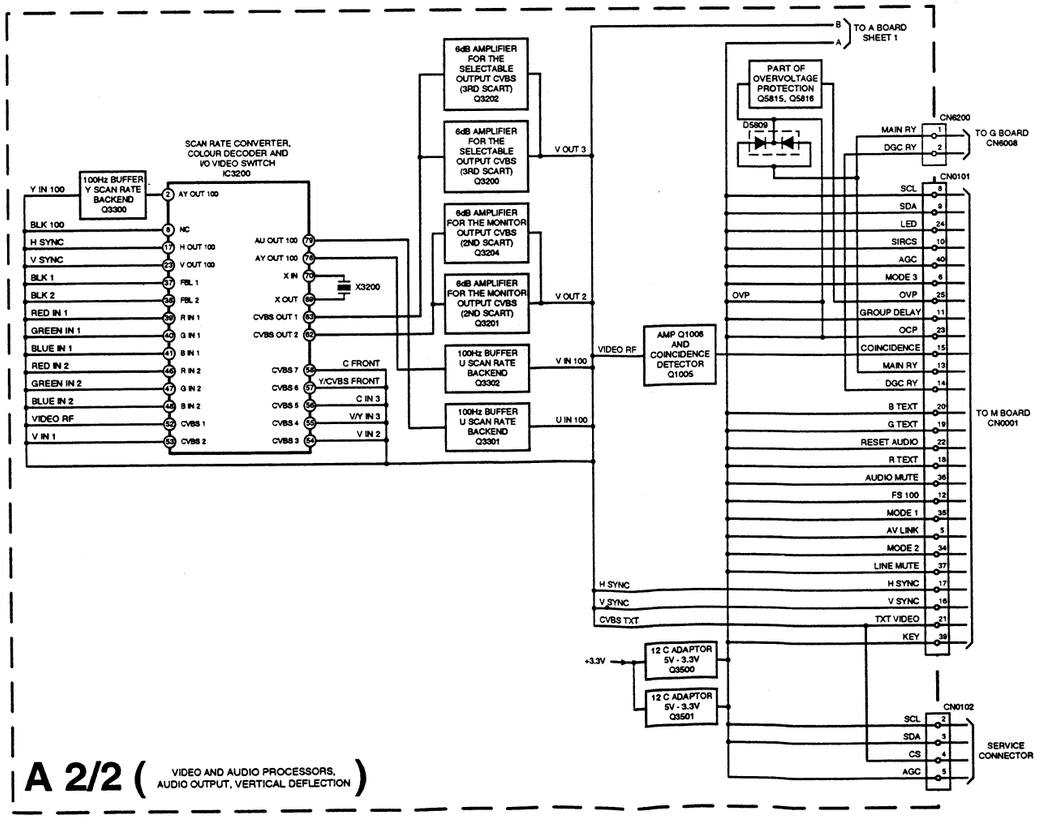
BLOCK DIAGRAMS (1)



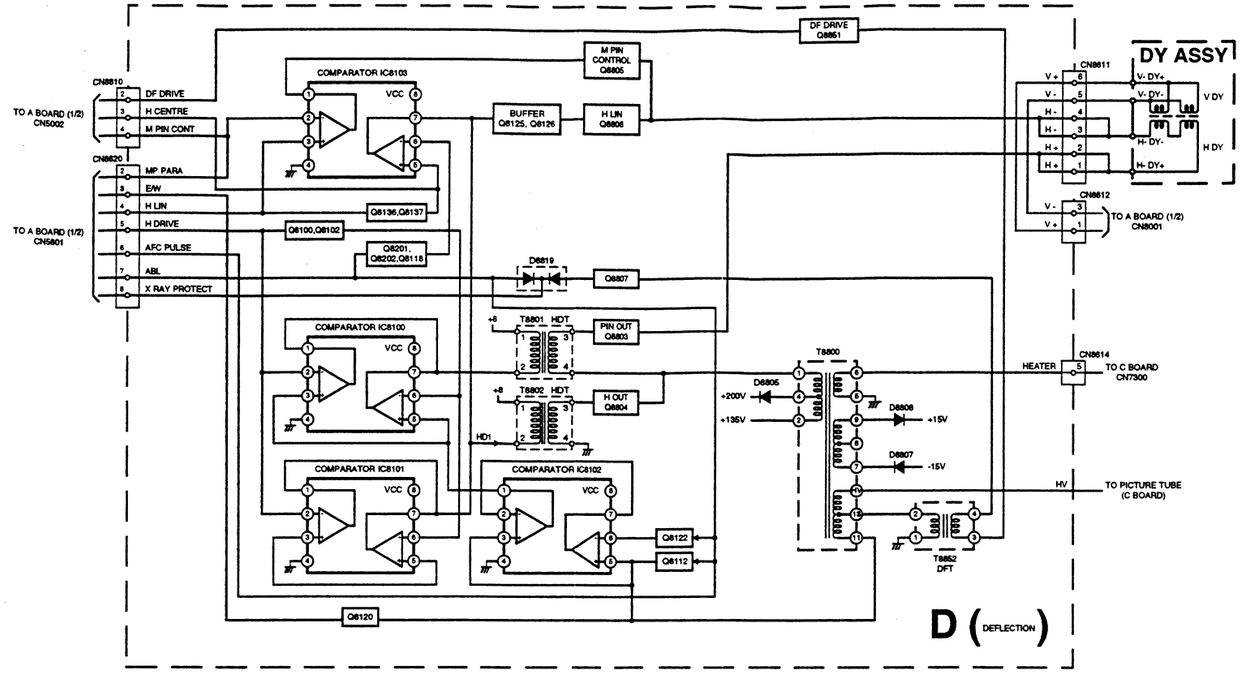


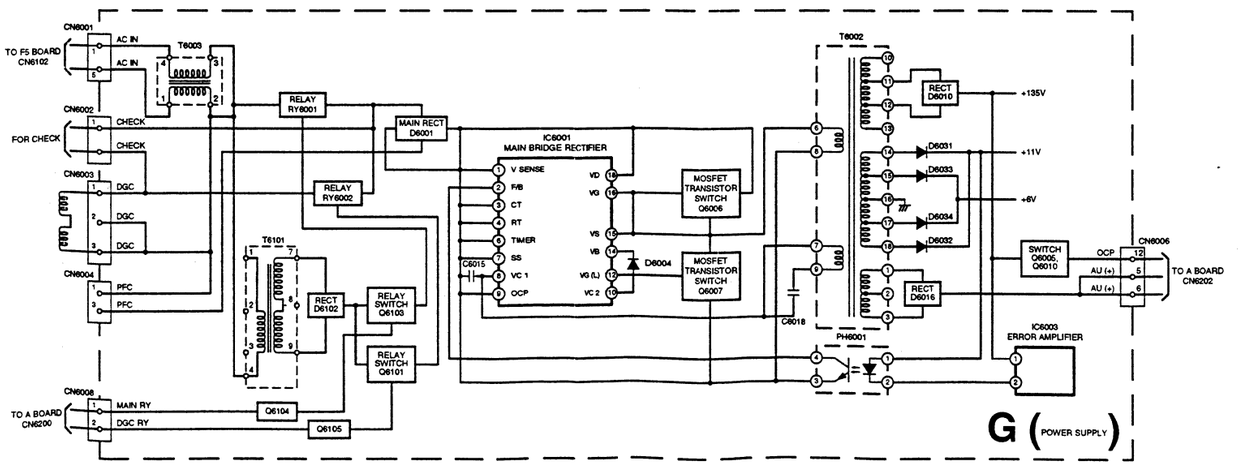


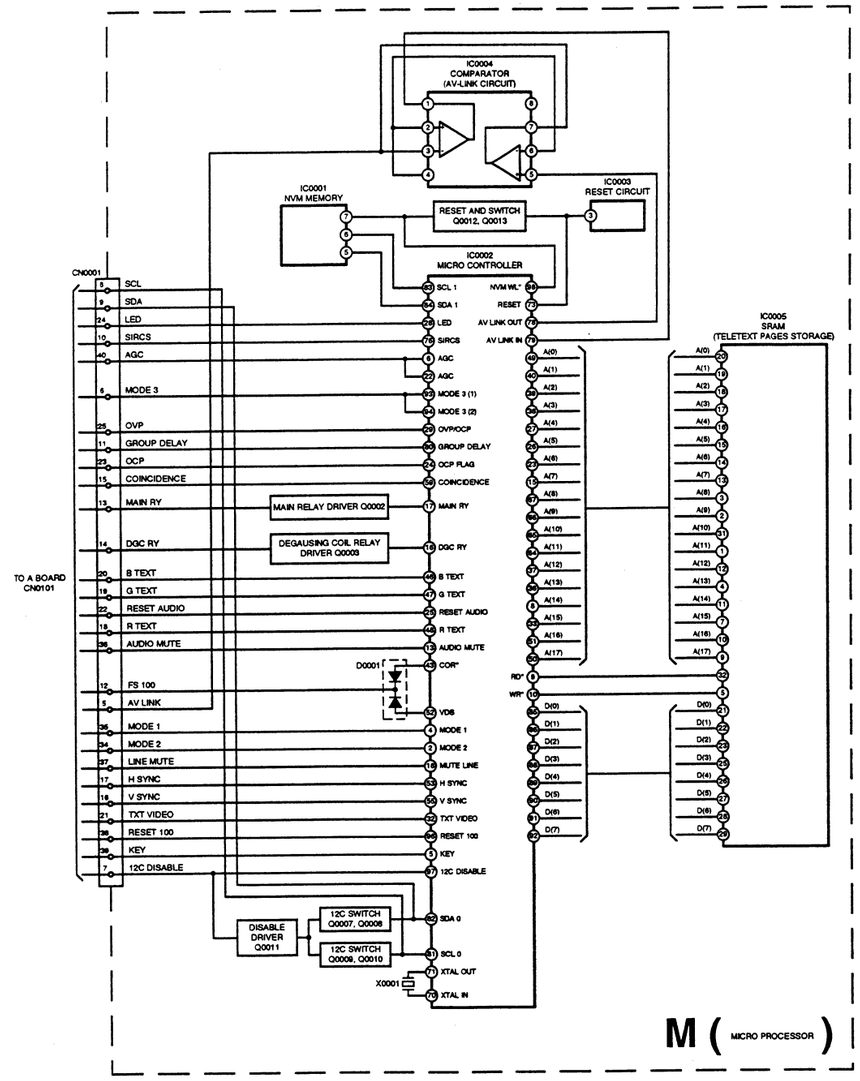


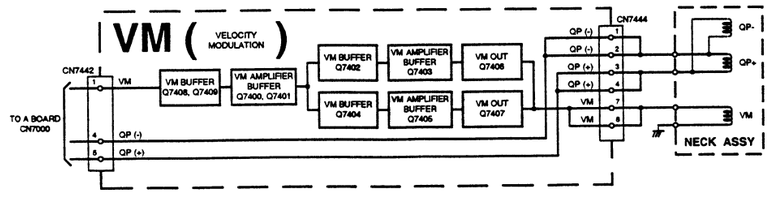


I. BLOCK DIAGRAMS (2)

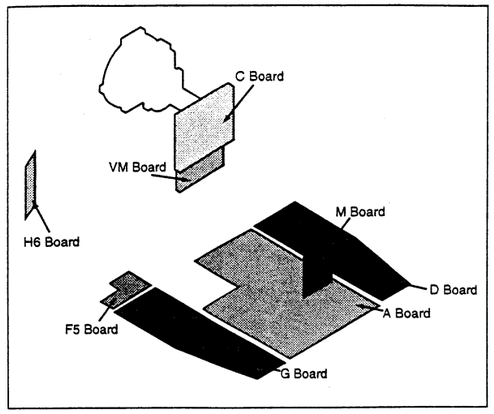








5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in µF unless otherwise noted.
- pF : µµF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm Electrical power rating : 1/4W

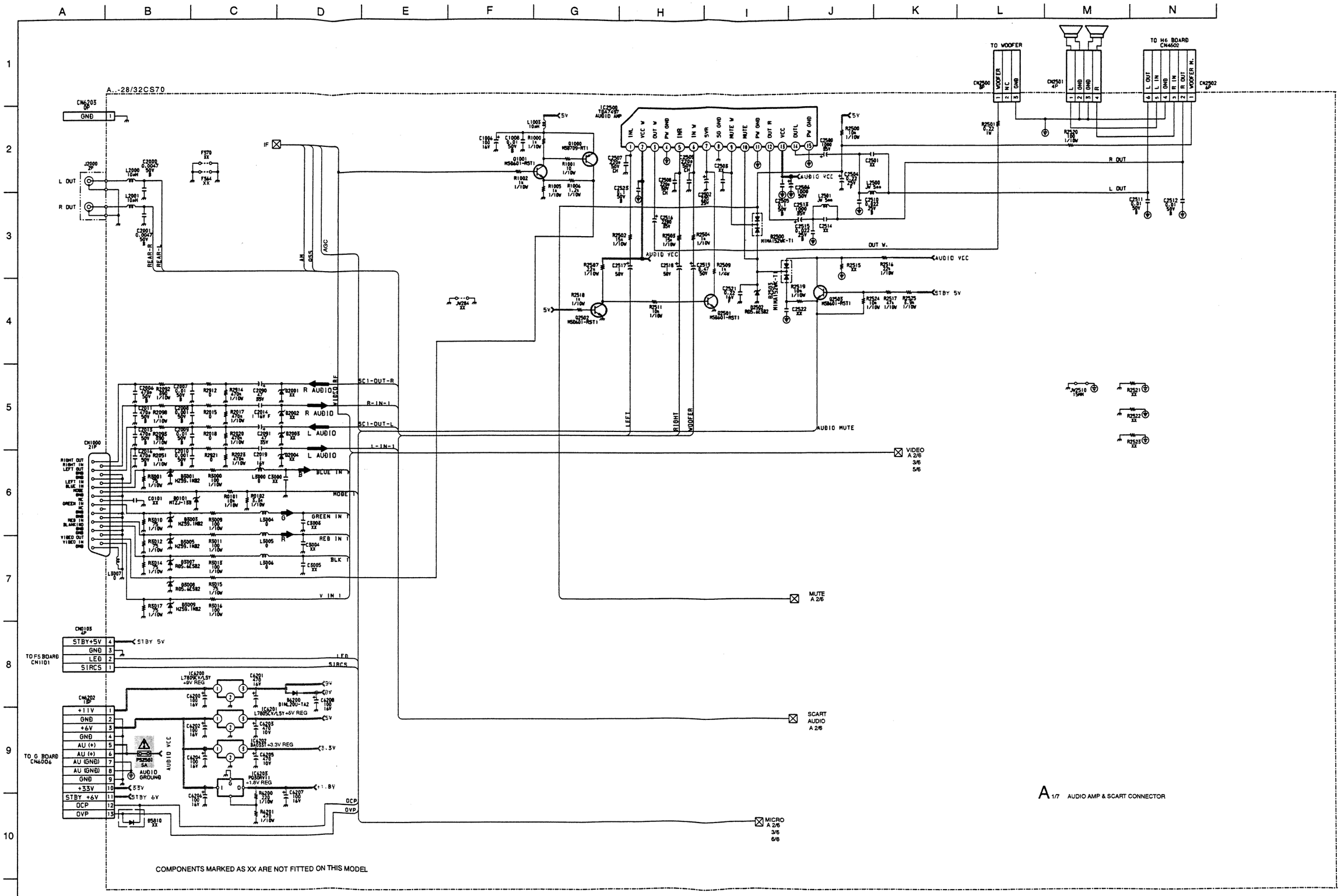
- Chip resistors are 1/10W
- All resistors are in ohms.
  k = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital mutimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerences.
- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

Note : Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié. specified.

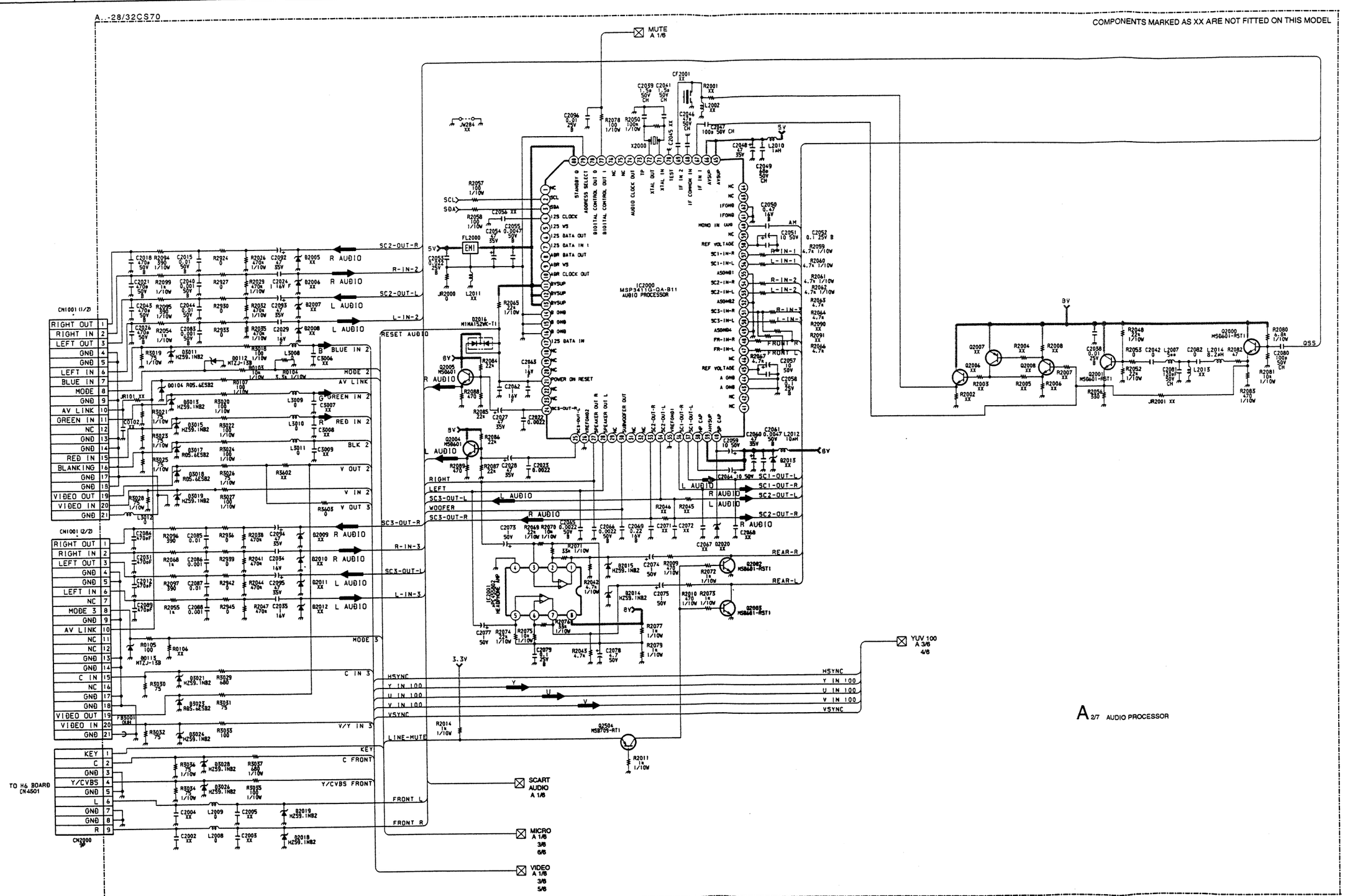


A 1/7 AUDIO AMP & SCART CONNECTOR

~ A Board Schematic Diagram [Audio Amp & Scart Connector] Page 1/7 ~

A..-28/32CS70

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL



A 2/7 AUDIO PROCESSOR

~ A Board Schematic Diagram [Audio Processor] Page 2/7 ~

A..-28/32CS70

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

MICRO A 1/6 2/6 6/6

VIDEO A 1/6 2/6 5/6

DF A 4/6

TO B BOARD CN8612

TO VM BOARD CN7442

TO C BOARD CN7301

TO D BOARD CN8620

YUV 100 A 2/6 4/6

H CENTRE A 4/6

V PROT A 4/6

VDN-OUT A 4/6

VDP-OUT A 4/6

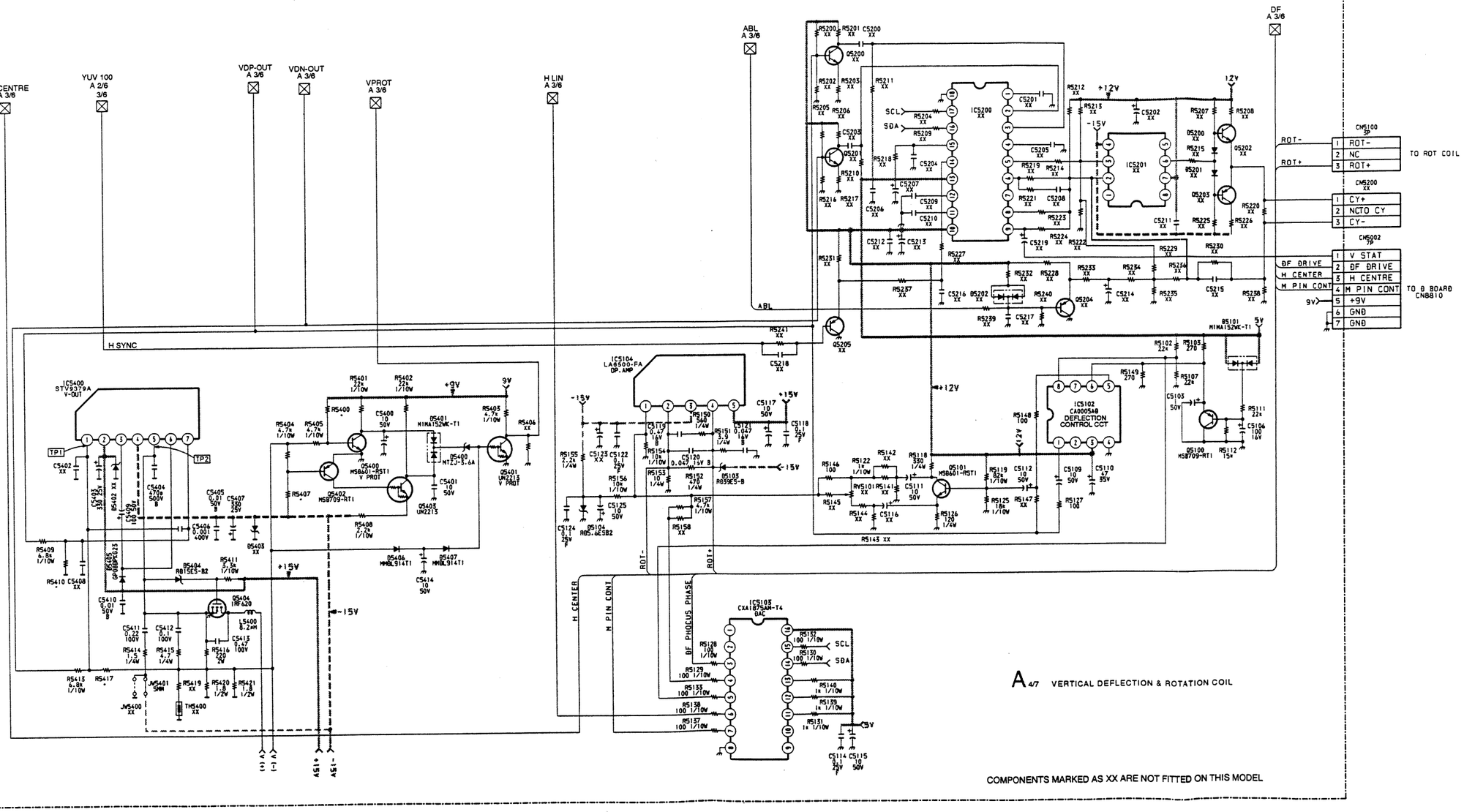
H LIN A 4/6

ABL A 4/6

A 3/7 RGB & H DEFLECTION

~ A Board Schematic Diagram [RGB & H Deflection] Page 3/7 ~

A..-28/32CS70



A 4/7 VERTICAL DEFLECTION & ROTATION COIL

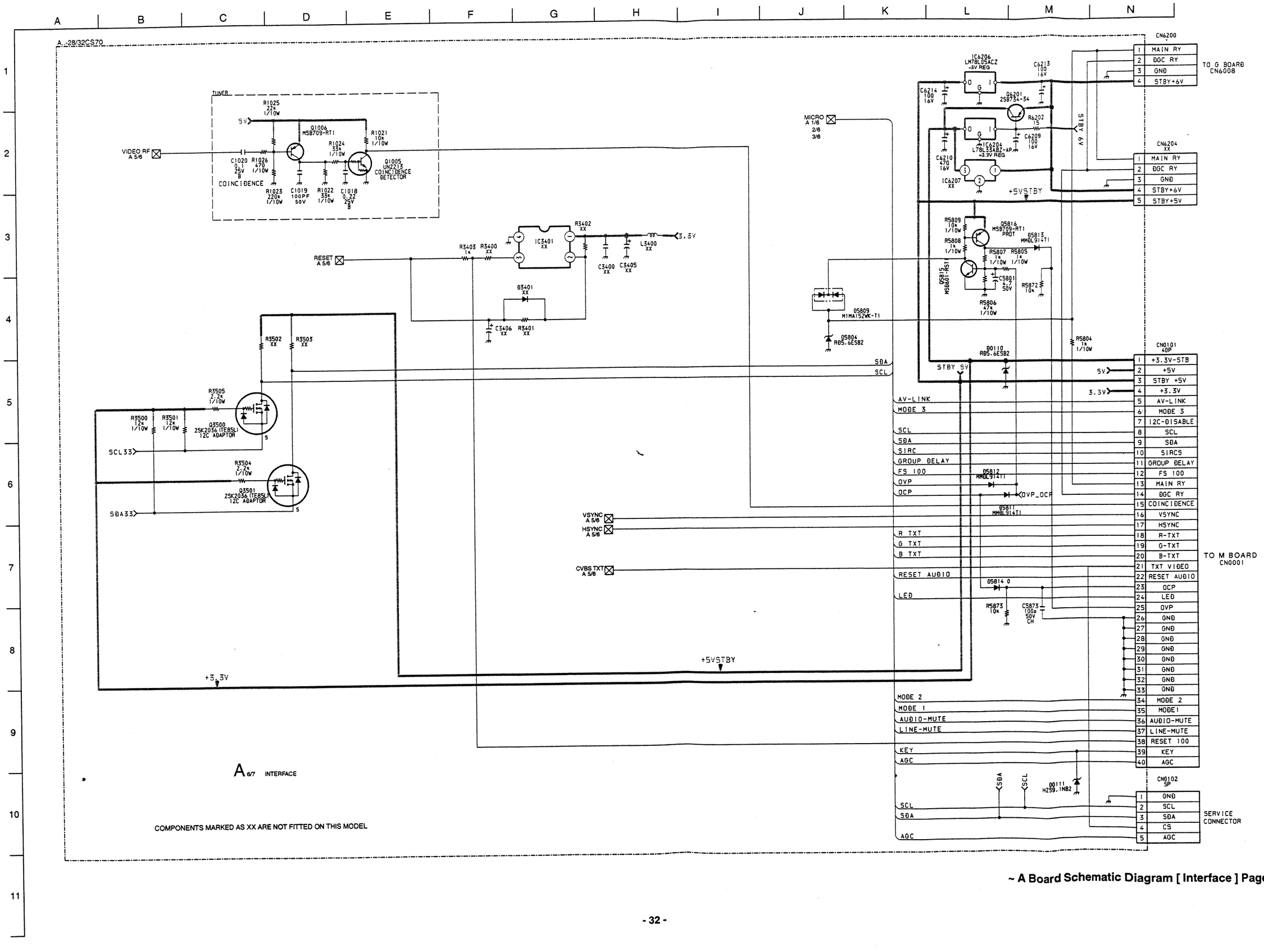
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ A Board Schematic Diagram [Vertical Deflection & Rotation Coil] Page 4/7 ~

A_28/32CS70

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

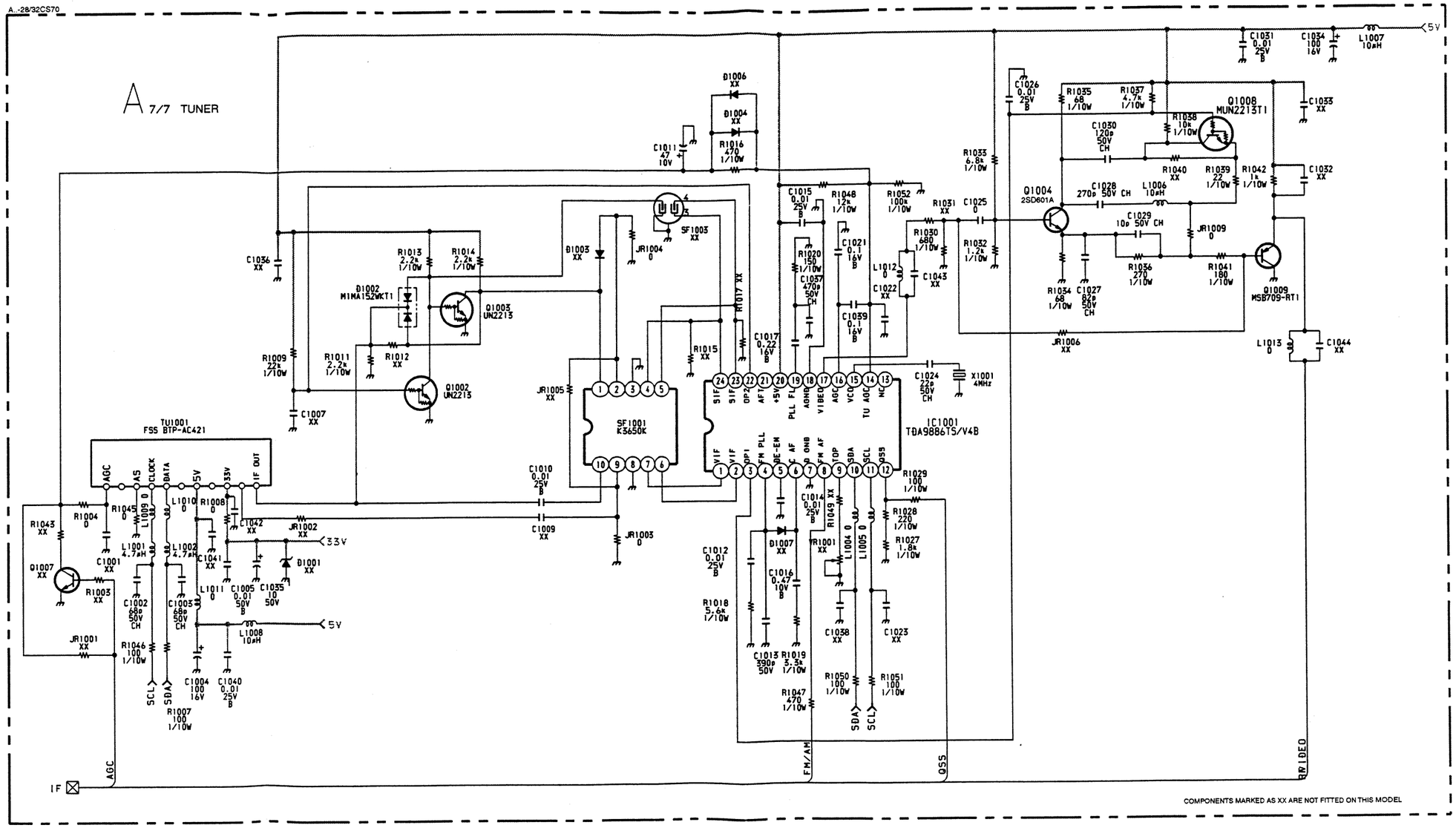
A 5/7 COLOUR DECODER, VIDEO SWITCH



~ A Board Schematic Diagram [Interface] Page 6/7 ~

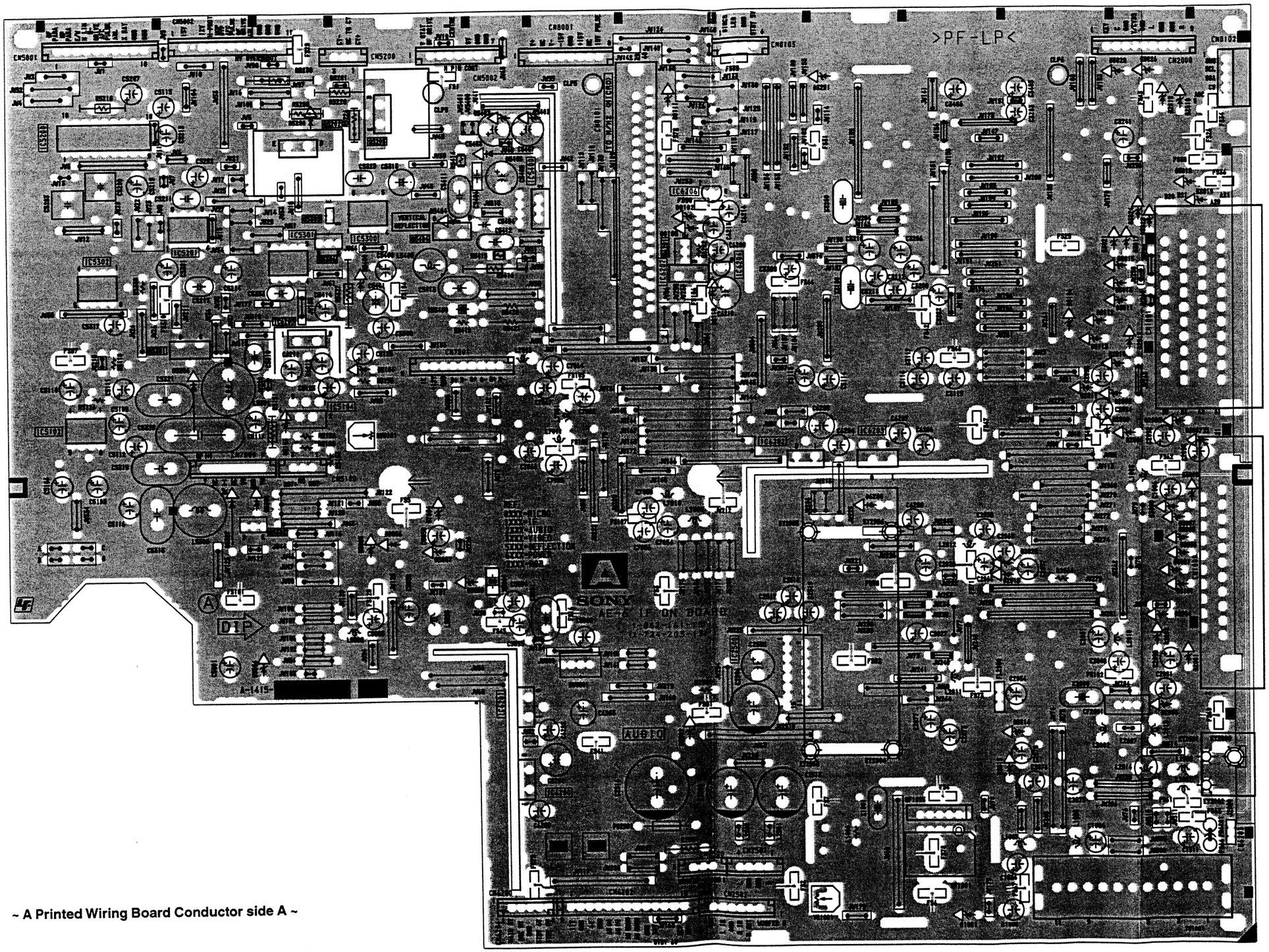
A..-28/32CS70

A 7/7 TUNER

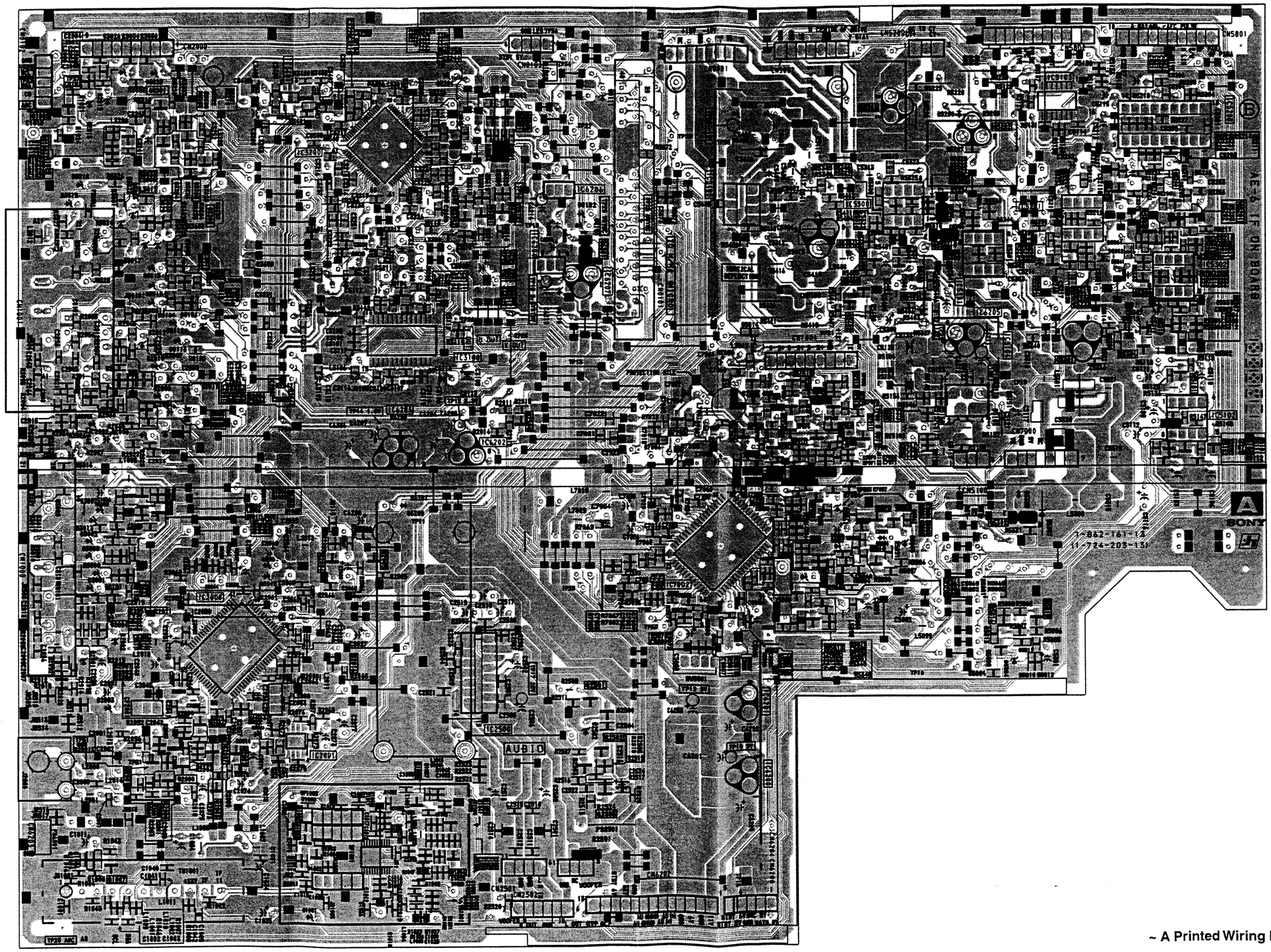


COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ A Board Schematic Diagram [Tuner] Page 7/7 ~



~ A Printed Wiring Board Conductor side A ~



~ A Printed Wiring Board Conductor side B ~

~ A Board IC Voltage Table ~

Ref No	Pin No	Volts (V)
IC5103	1	3.3
	2	3.3
	3	1.9
	4	2.6
	5	2.5
	6	1.8
	7	2
	8	0
	9	3.1
	10	3
	11	5
	12	5
	13	5
	14	0
	15	0
	16	5
IC5300	1	6
	2	6
	3	6
	4	0
	5	6
	6	6
	7	6
	8	12
IC5301	1	1.7
	2	8.5
	3	6.5
	4	0
IC5301	5	6.5
	6	7.1
	7	0.4
	8	12
IC5302	1	0
	2	5.8
	3	6.3
	4	0
	5	6.6
	6	6.5
	7	0.4
	8	12
IC5400	1	1.4
	2	13.2
	3	-12.5
	4	-15.4
	5	-0.4
	6	13.7
	7	1.4
IC7002	1	3.6
	2	0
	3	4.4
	4	4.8
	5	3.5
	6	3.4
	7	7.6
	8	0
	9	0
IC7002	10	0.4
	11	1.9
	12	0.4
	13	0.9
	14	5
	15	2.5
	16	0
	17	3
	18	2.7
	19	3.9
	20	0
	21	6.1
	22	2.7
	23	8.8
	24	0
	25	4.3
	26	3.2
	27	5.2
	28	0.3
	29	4.9
	30	3.4
	31	5.6
	32	8.9
	33	0
	34	4.7
	35	4.7
	36	4.7
	37	8.9
IC7002	38	0
	39	4.8
	40	4.8
	41	4.8
	42	0
	43	0
	44	0
	45	6.3
	46	8.9
	47	8.9
	48	6
	49	2.5
	50	4.1
	51	0
	52	6
	53	5.8
	54	5.8
	55	0.4
	56	5.8
	57	5.8
	58	5.8
	59	0.3
	60	0
	61	0
	62	2.9
	63	3.7

~ A Board Location Table (A Side) ~

DIODE		D2014	K - 9	D3005	M - 7	D3017	M - 4	D3028	M - 2	D5306	C - 5	D7004	F - 7	IC5301	D - 4	IC6206	H - 3
D0101	M - 7	D2015	K - 9	D3007	M - 7	D3018	N - 3	D3201	J - 2	D5307	C - 6	D5809	K - 8	IC5302	B - 4	IC6207	H - 4
D0104	L - 4	D2018	M - 2	D3008	M - 7	D3019	N - 3	D5103	D - 6	D5400	E - 4	IC		IC5400	G - 4	TRANSISTOR	
D0110	I - 4	D2019	M - 2	D3009	N - 7	D3021	M - 4	D5104	E - 5	D5404	F - 3	IC5104	D - 6	IC6201	G - 10	Q5202	E - 2
D0111	H - 2	D2502	H - 9	D3011	M - 4	D3023	M - 4	D5200	D - 2	D5405	F - 3	IC5200	B - 3	IC6202	I - 6	Q5301	C - 5
D0112	M - 4	D3001	M - 7	D3013	M - 4	D3024	M - 4	D5201	E - 2	D5807	F - 7	IC5201	C - 4	IC6203	J - 6	Q5306	E - 4
D0113	M - 5	D3003	M - 7	D3015	M - 4	D3026	M - 2	D5305	D - 6	D6200	J - 6	IC5300	E - 4	IC6205	D - 5	Q5404	F - 4
D1006	M - 10																

~ A Board Location Table (B Side) ~

DIODE		D2503	G - 9	D3024	B - 3	D5309	J - 3	IC5103	L - 3	TRANSISTOR		Q3201	C - 2	Q5300	M - 4	Q7003	H - 6
D0101	B - 7	D3001	B - 7	D3026	B - 2	D5400	K - 4	IC5104	K - 6	Q1000	C - 6	Q3202	C - 3	Q5301	L - 5	Q7009	K - 6
D0104	C - 5	D3003	B - 7	D3028	C - 2	D5401	J - 4	IC5200	M - 3	Q1001	D - 6	Q3204	C - 3	Q5302	K - 7	Q7011	J - 6
D0110	G - 4	D3005	B - 7	D3201	F - 2	D5404	J - 3	IC5201	L - 4	Q1004	D - 10	Q3300	F - 3	Q5303	M - 4	Q7012	J - 5
D0111	G - 2	D3007	B - 6	D5103	L - 6	D5405	I - 3	IC5300	J - 3	Q1005	B - 2	Q3301	F - 3	Q5304	M - 5	Q7013	J - 6
D0112	C - 5	D3008	B - 6	D5104	J - 5	D5809	K - 8	IC5301	K - 4	Q1006	B - 3	Q3302	F - 3	Q5305	K - 3	Q7014	J - 6
D0113	C - 5	D3009	B - 6	D5200	K - 2	D5811	L - 8	IC5302	M - 4	Q2000	C - 9	Q3500	F - 3	Q5306	K - 4	Q7015	I - 5
D1006	B - 10	D3011	C - 4	D5202	L - 4	D5812	L - 8	IC5400	I - 3	Q2002	D - 9	Q3501	F - 3	Q5400	J - 4	Q7016	I - 5
D2014	C - 9	D3013	C - 4	D5300	L - 5	D6200	F - 7	IC6200	I - 9	Q2003	D - 9	Q5101	M - 5	Q5401	K - 4	Q7017	I - 6
D2015	D - 9	D3015	C - 4	D5303	N - 4	IC		IC6201	I - 8	Q2004	E - 7	Q5200	M - 4	Q5402	J - 5	Q7018	I - 5
D2016	E - 8	D3017	B - 4	D5304	M - 4	IC2000	C - 8	IC6202	F - 6	Q2005	E - 7	Q5201	N - 3	Q5403	J - 4	Q7019	I - 5
D2018	B - 2	D3018	B - 3	D5305	L - 6	IC2001	D - 9	IC6203	E - 6	Q2501	G - 8	Q5202	K - 3	Q5404	J - 4		
D2019	B - 2	D3019	B - 3	D5306	L - 5	IC2500	F - 8	IC6205	K - 5	Q2502	G - 9	Q5203	J - 2	Q5813	J - 8		
D2500	G - 9	D3021	C - 4	D5307	L - 7	IC3100	E - 5	IC6206	G - 3	Q2503	G - 9	Q5204	L - 4	Q5815	L - 8		
D2502	G - 9	D3023	B - 3	D5308	M - 4	IC3200	E - 3	IC6207	G - 4	Q3200	C - 3	Q5205	M - 3	Q5816	L - 8		

~ A Board Semiconductor Voltage Table ~

Ref	(s)	(g)	(d)
Q3500	2.7	3.3	3.9
Q3501	2.7	3.3	4
Q5301	0	5.1	51.2
Q5404	0	0	0.5
Ref	**(e)**	**(b)**	**(c)**
Q1001	3.2	3.9	8.3
Q1004	1.9	1.3	0
Q1005	0	0.5	5
Q1006	5	4.7	1
Q2000	4.2	4.8	8.3

Ref	(e)	(b)	(c)
Q2002	0	0	4
Q2003	0	0	4
Q2004	3.3	3.9	8.3
Q2005	3.3	3.9	8.3
Q2501	0	0	15.2
Q2502	0	0.7	0
Q2503	0.6	0.6	0.5
Q3200	1.9	2.5	4.4
Q3201	1.9	2.5	4.4
Q3202	5	4.4	3.4

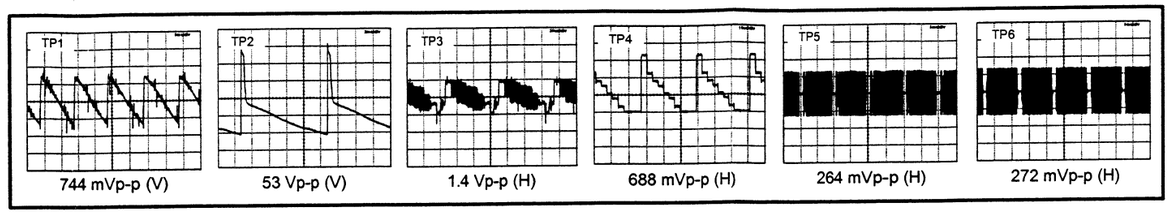
Ref	(e)	(b)	(c)
Q3204	5	4.4	3.4
Q3300	0.7	1.3	5
Q3301	1.9	1.2	0
Q3302	1.9	1.2	0
Q3500	3.3	2.7	3.9
Q3501	3.3	2.7	4
Q5101	0	0.4	6.4
Q5201	2.8	3.4	7.9
Q5202	0.2	0.8	11.7
Q5203	0.2	0.8	11.7

Ref	(e)	(b)	(c)
Q5205	1.9	1.2	0
Q5300	0	0.4	2.2
Q5301	5.1	0	51.2
Q5302	8.9	5.7	0
Q5304	0	0.4	5.6
Q5401	0	0	7.9
Q5402	0	0	-11.3
Q5403	-13.5	-11.2	-8.3
Q5404	0	0	0.5

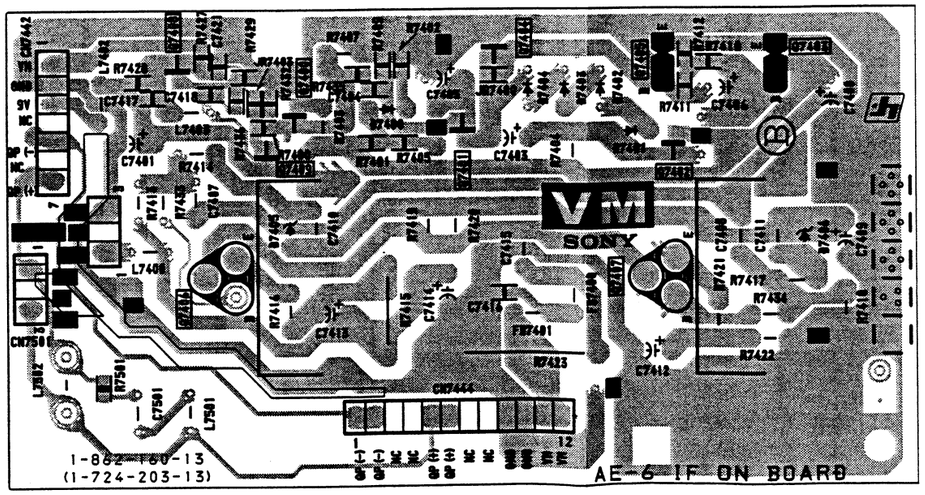
Ref	(e)	(b)	(c)
Q5813	0	7.9	0
Q5814	0	0	0
Q5815	0	0	5
Q5816	5	5	0
Q7003	5.6	6.2	8.8
Q7009	3.2	7	0.1
Q7011	2.5	1.9	0
Q7012	11.6	10.9	8.7
Q7013	6	6.6	10.9
Q7014	2.5	1.8	0

Ref	(e)	(b)	(c)
Q7015	11.6	10.9	8.8
Q7016	6	6.6	10.9
Q7017	2.7	2	0
Q7018	11.6	10.9	8.6
Q7019	6	6.6	10.9
Q7020	8.9	8.9	0
Q7021	2.7	2.7	8.9

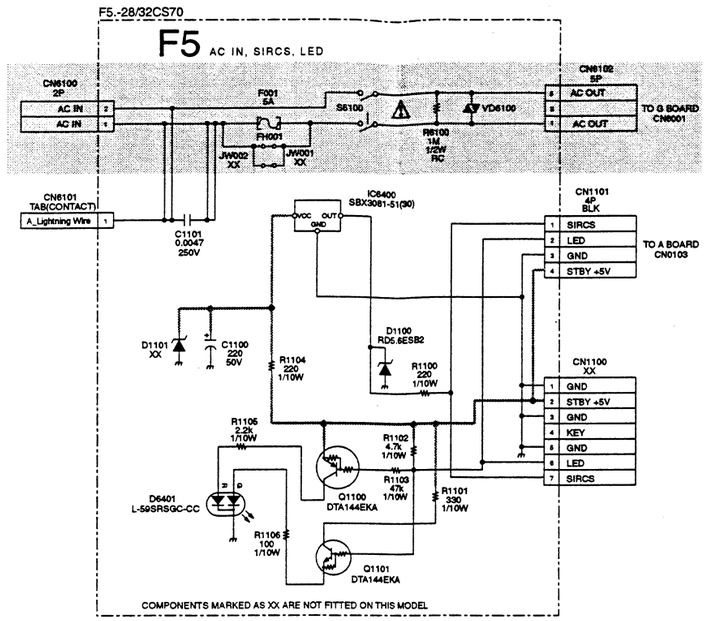
~ A Board Waveforms ~



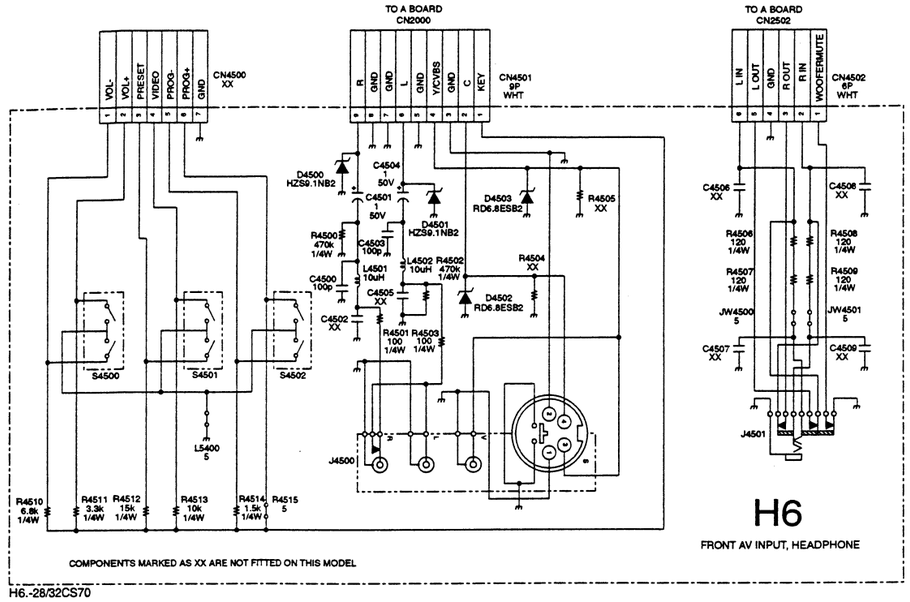
~ VM Printed Wiring Board Conductor side ~



~ F5 Board Schematic Diagram [AC In, SIRCS, LED] ~



~ H6 Board Schematic Diagram [Front AV Input, Headphone] ~

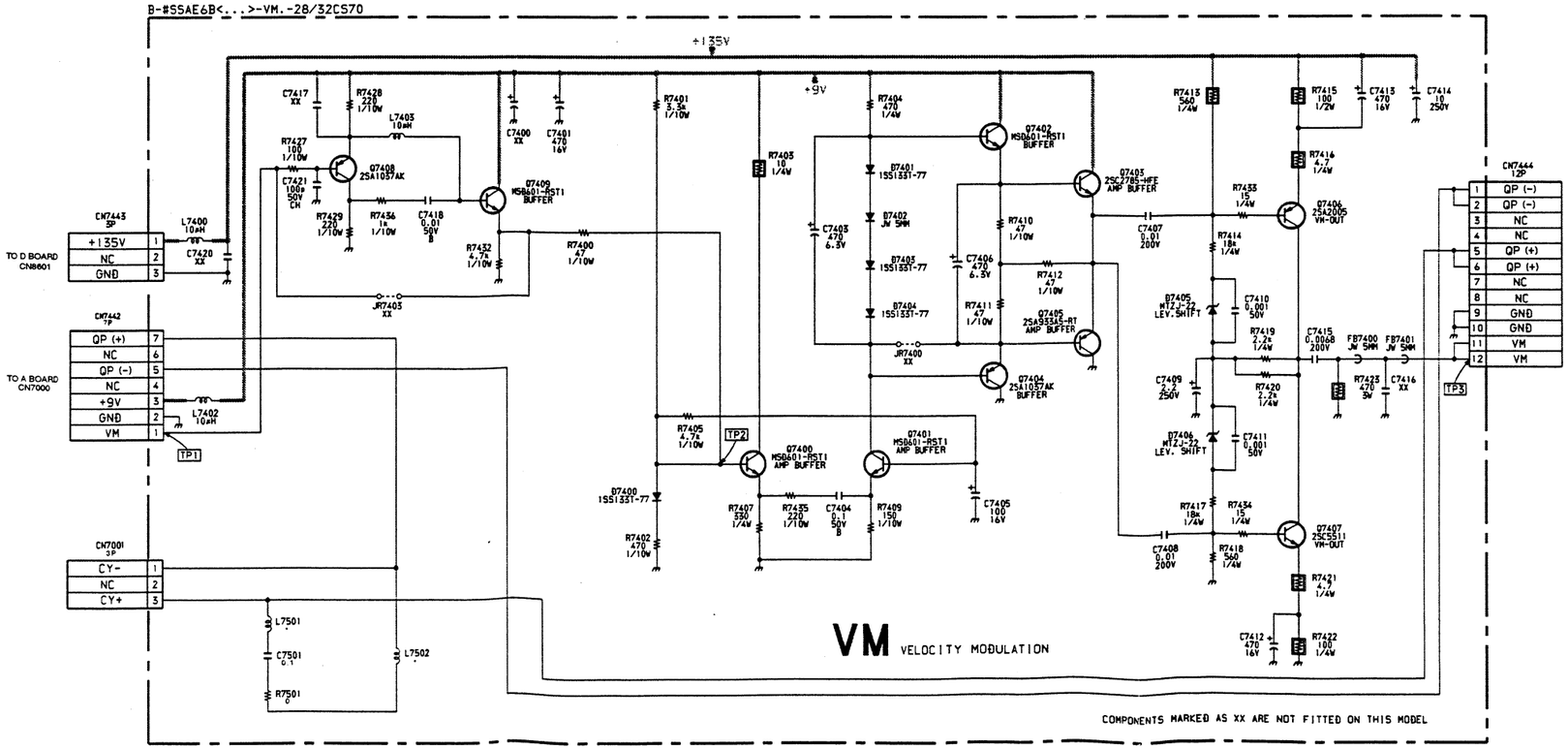


H6

FRONT AV INPUT, HEADPHONE

H6.-28/32CS70

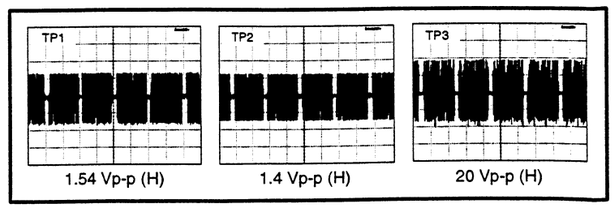
~ VM Board Schematic Diagram [Velocity Modulation] ~

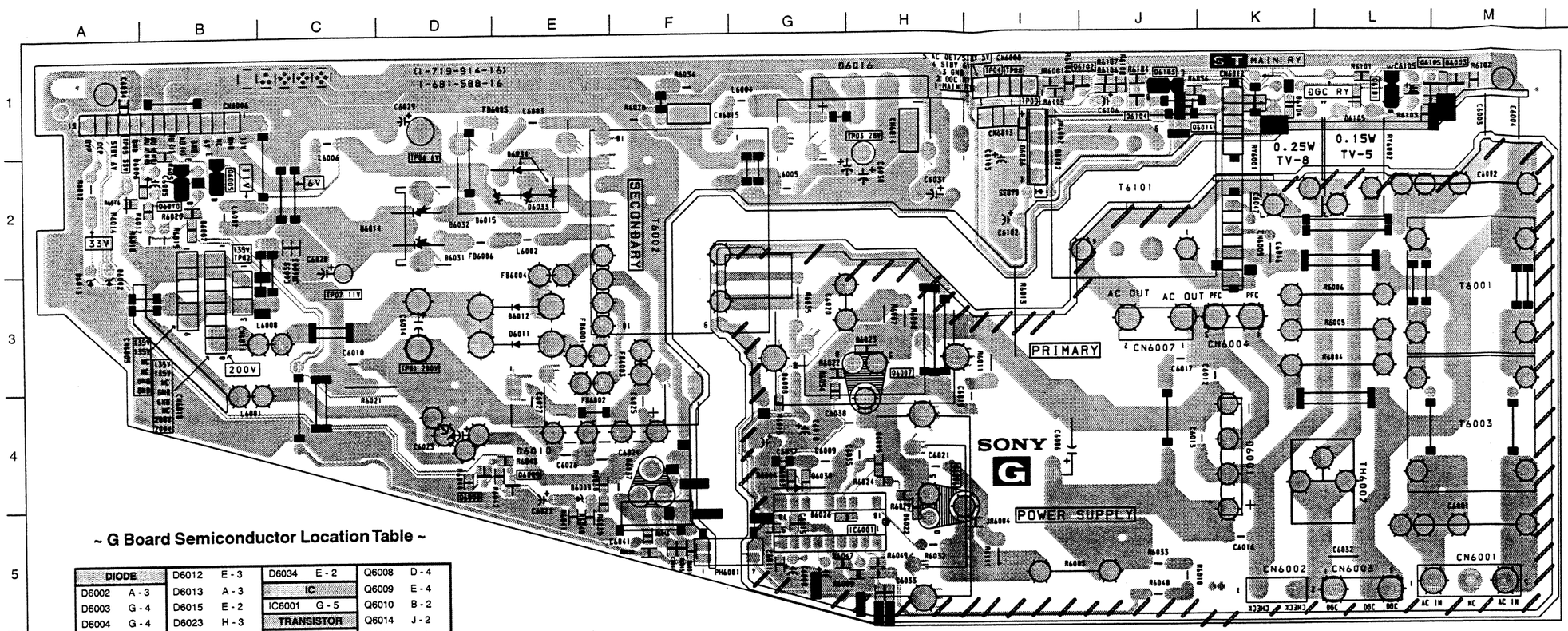


~ VM Board Voltage Table ~

Ref	(e)(s)	(b)(g)	(c)(d)
Q7400	5.0	5.7	8.7
Q7401	0.9	1.5	4.1
Q7402	5.5	6.1	8.9
Q7403	5.1	5.5	8.9
Q7404	4.7	4.1	0
Q7405	5.1	4.7	0
Q7406	134	133.8	68
Q7407	1.1	1.4	68
Q7408	6.3	5.6	2.5
Q7409	5.7	6.3	0.9

~ VM Board Waveforms ~

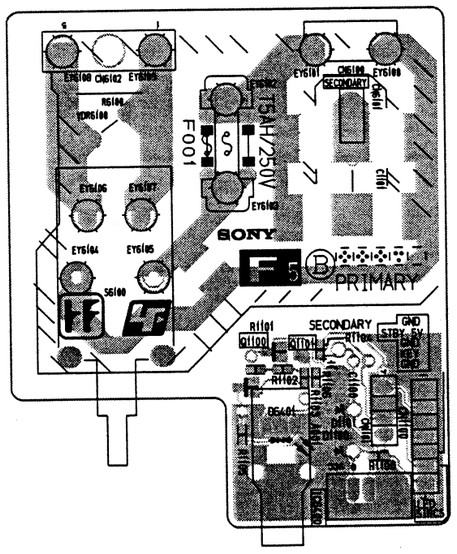




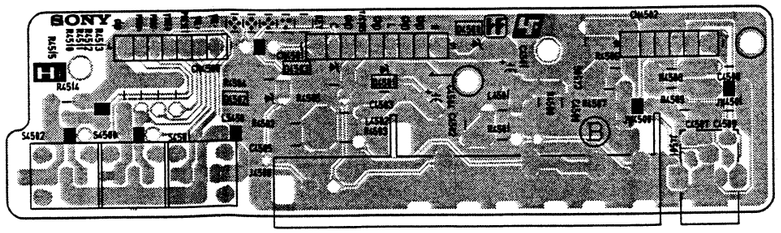
~ G Printed Wiring Board Conductor side ~

~ G Board Semiconductor Location Table ~

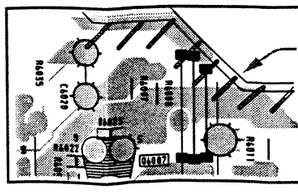
DIODE		D6012	E - 3	D6034	E - 2	Q6008	D - 4
D6002	A - 3	D6013	A - 3	IC		Q6009	E - 4
D6003	G - 4	D6015	E - 2	IC6001	G - 5	Q6010	B - 2
D6004	G - 4	D6023	H - 3	TRANSISTOR		Q6014	J - 2
D6008	G - 3	D6030	G - 4	Q6003	M - 1	Q6101	L - 1
D6009	E - 4	D6031	D - 2	Q6005	B - 2	Q6102	J - 1
D6010	E - 4	D6032	D - 2	Q6006	H - 4	Q6103	J - 1
D6011	E - 3	D6033	E - 2	Q6007	H - 3	Q6105	L - 1



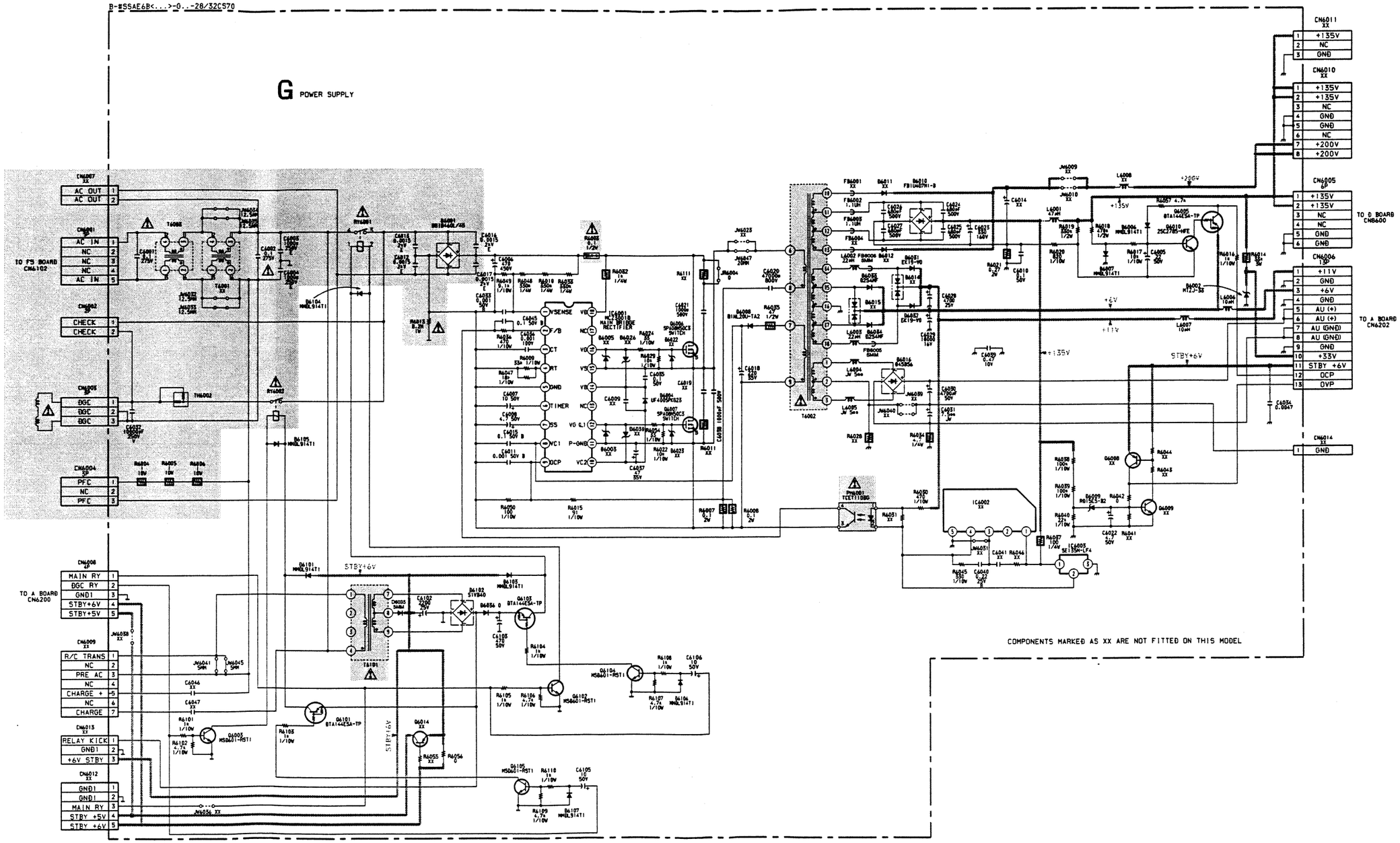
~ F5 Printed Wiring Board Conductor side ~



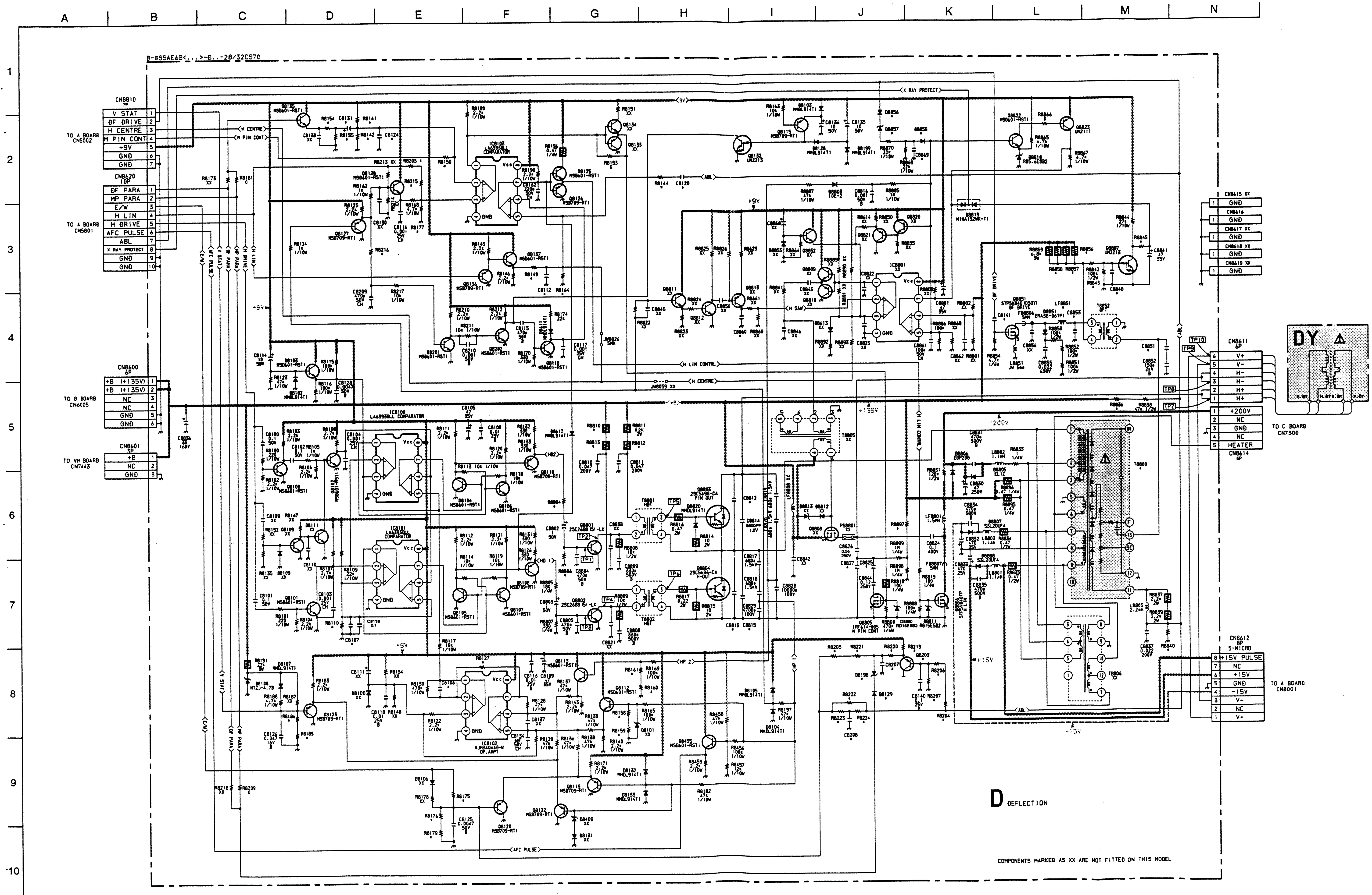
~ H6 Printed Wiring Board Conductor side ~



Note :
Portions of the circuit contained within the marked areas as shown have high voltages present. Use care to prevent electric shock during inspection or repair. An Isolation Transformer must be used during any Service work to avoid possible shock hazard due to live chassis. The chassis of this receiver is directly connected to the power line.

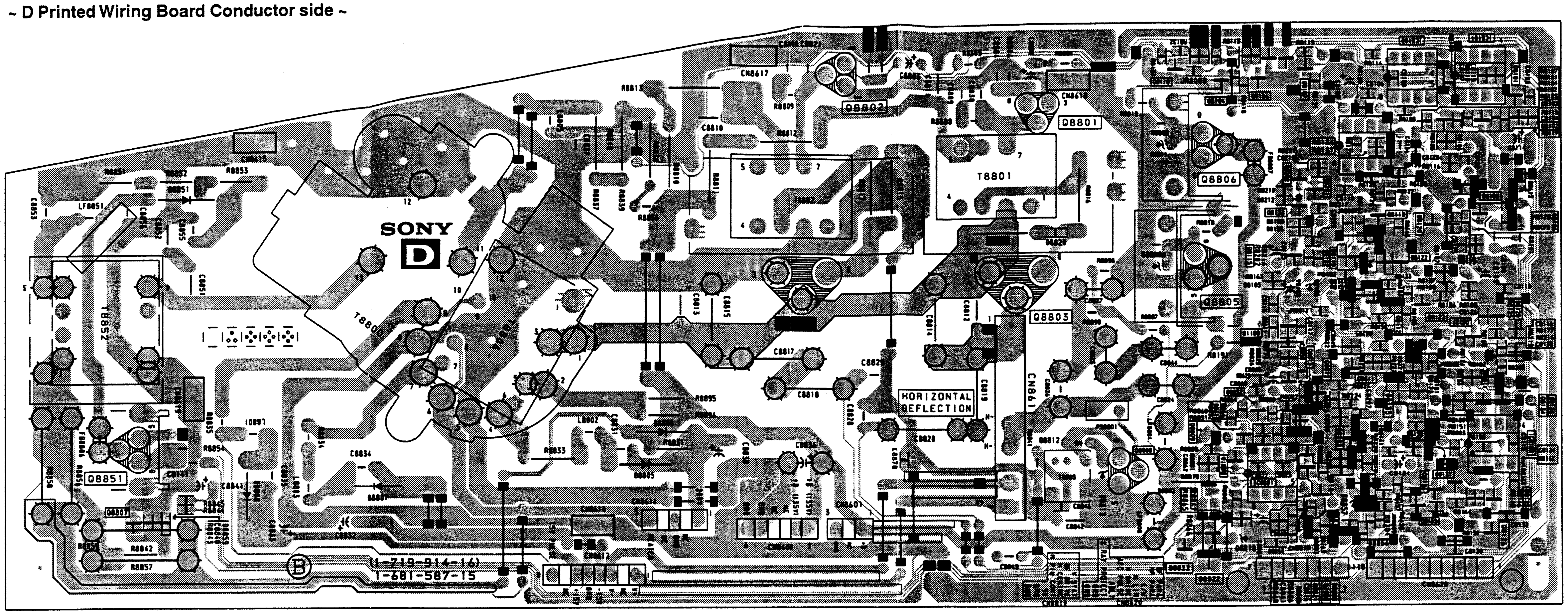

G POWER SUPPLY
CN6007 AC OUT 1 AC OUT 2
CN6001 AC IN 1 NC 2 NC 3 NC 4 AC IN 5
TO FS BOARD CN6302
CN6002 CHECK 1 CHECK 2
CN6005 BGC 1 BGC 2 BGC 3
CN6004 PFC 1 NC 2 PFC 3
CN6008 MAIN RY 1 BGC RY 2 GND1 3 STBY+6V 4 STBY+5V 5
TO A BOARD CN6200
CN6009 R/C TRANS 1 NC 2 PRE AC 3 NC 4 CHARGE + 5 NC 6 CHARGE 7
CN6013 RELAY KICK 1 GND1 2 +6V STBY 3
CN6012 GND1 1 GND1 2 MAIN RY 3 STBY +5V 4 STBY +6V 5
CN6011 +135V 1 NC 2 GND 3
CN6010 +135V 1 +135V 2 NC 3 GND 4 GND 5 NC 6 +200V 7 +200V 8
CN6005 +135V 1 +135V 2 NC 3 NC 4 GND 5 GND 6
TO D BOARD CN6600
CN6006 +11V 1 GND 2 +6V 3 GND 4 AU (+) 5 AU (+) 6 AU (GND) 7 AU (GND) 8 GND 9 +33V 10 STBY +6V 11 OCP 12 OVP 13
TO A BOARD CN6202
CN6014 GND 1
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ G Board Schematic Diagram [Power Supply] ~

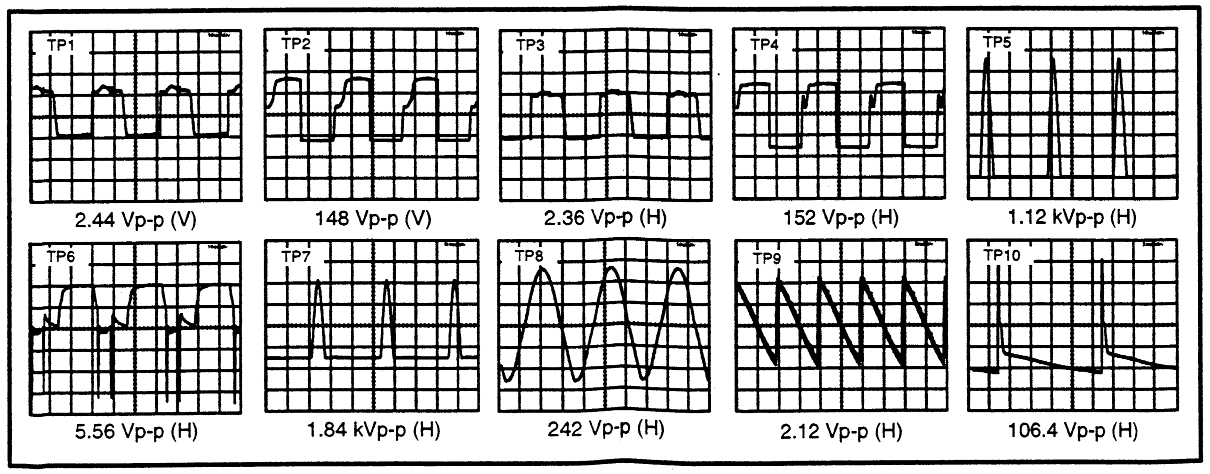

B-#SSAE6B<...>-D..-28/32CS70
CN8810 7P
V STAT
DF DRIVE
H CENTRE
M PIN CONT
+9V
GND
GND
TO A BOARD CN5002
CN8620 10P
DF PARA
MP PARA
E/W
H LIN
H DRIVE
AFC PULSE
ABL
X RAY PROTECT
GND
GND
TO A BOARD CN5801
CN8600 6P
+B (+135V)
+B (+135V)
NC
NC
GND
GND
TO G BOARD CN6005
CN8601 3P
+B
NC
GND
TO VM BOARD CN7443
IC8100 LA6393DLL COMPARATOR
IC8101 LA6393DLL COMPARATOR
IC8102 NJM3404AD-W OP.AMPT
IC8103 LA6393DLL COMPARATOR
IC8801
Q8803 2SC5698-CA PIN OUT
Q8804 2SC5696-CA H-OUT
T8801 HBT
T8802 HBT
T8800
T8805
T8806
T8852 DFT
CN8615 XX GND
CN8616 GND
CN8617 XX GND
CN8618 XX GND
CN8619 XX GND
CN8611 6P
V+
V-
H-
H-
H+
H+
DY
CN8614 6P
+200V
NC
GND
NC
HEATER
TO C BOARD CN7300
CN8612 8P S-MICRO
+15V PULSE
NC
+15V
GND
-15V
V-
NC
V+
TO A BOARD CN8001
D DEFLECTION
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ D Board Schematic Diagram [Deflection] ~

~ D Printed Wiring Board Conductor side ~



~ D Board Waveforms ~

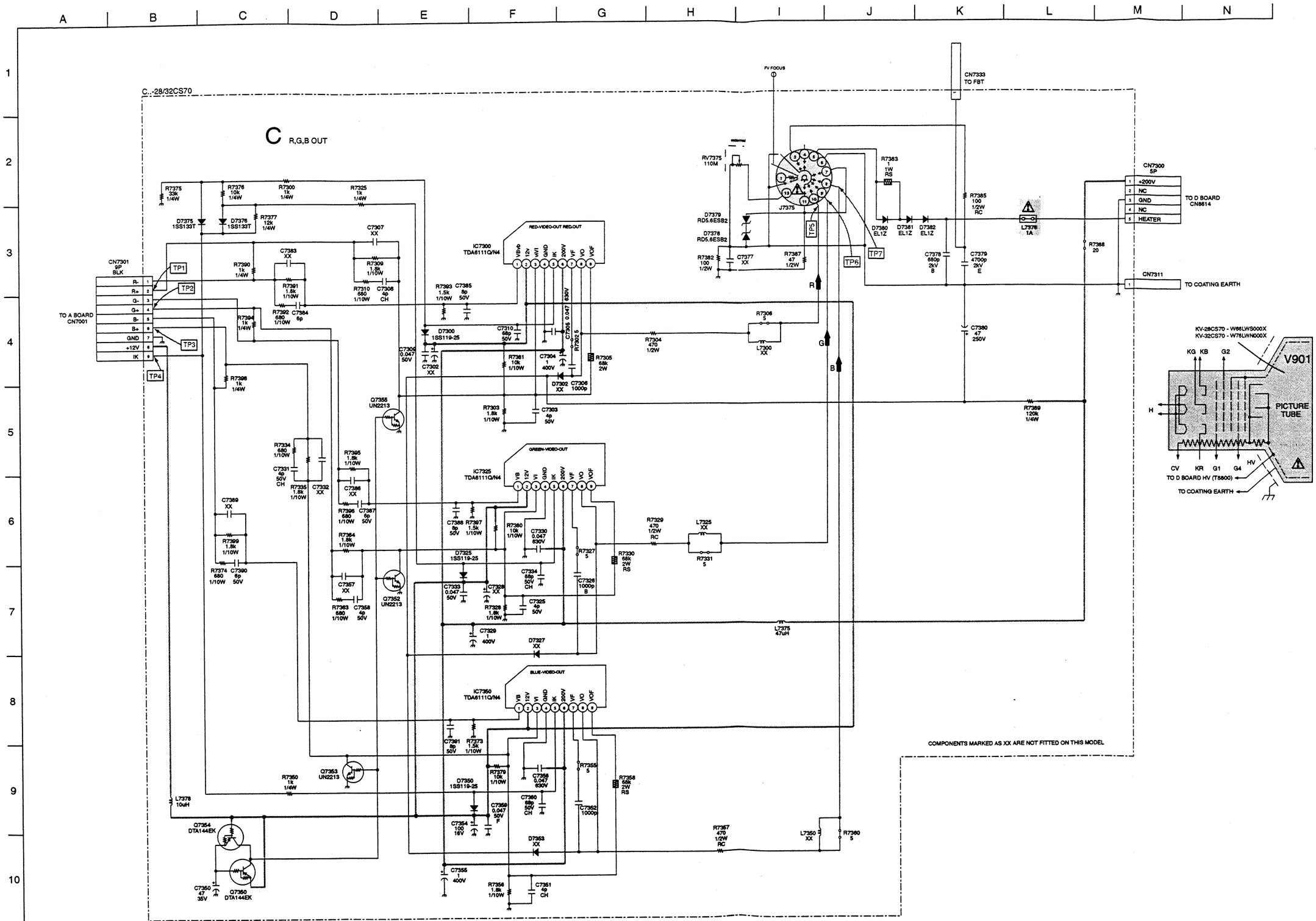


~ D Board IC Voltage Table ~

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC8100	1	0.3
	2	4.3
	3	4.1
	5	4.1
	6	3.0
	7	0.4
IC8101	1	0.3
	2	4.3
	3	4.4
	5	4.4
	6	3.0
	7	0.4
IC8102	1	4.1
	2	0.4
	3	0.4
	5	0.4
	6	0.4
	7	0.4
IC8103	1	2.5
	2	2.1
	3	1.7
	5	1.6
	6	1.0
	7	1.1

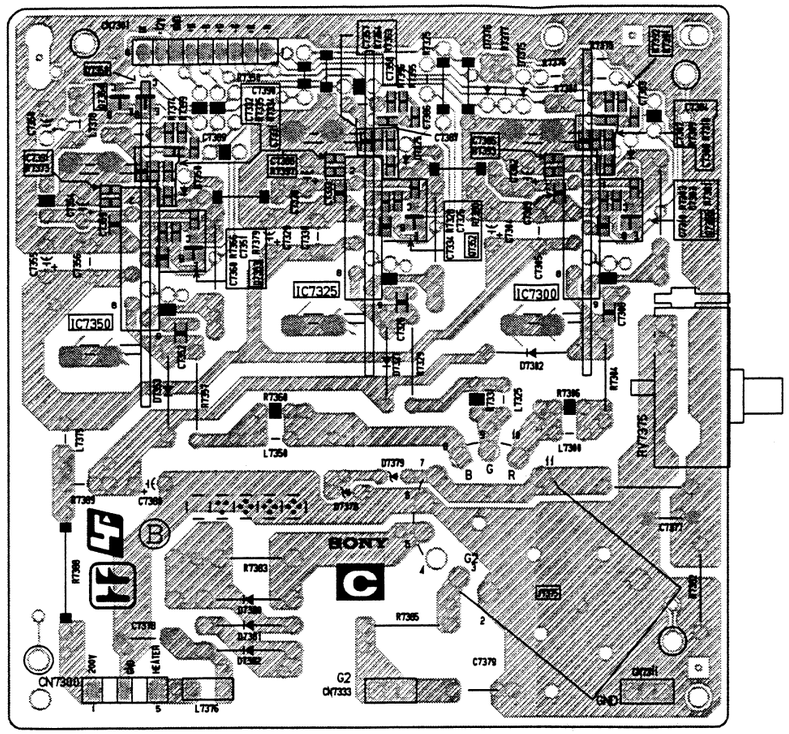
~ D Board Semiconductor Voltage Table ~

Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)
Q8100	0	0.6	3.6	Q8110	2.4	3.1	0	Q8128	3.4	1.5	8.9	Q8801	0	0.4	64.7
Q8101	0	0.6	4.3	Q8113	0.3	0.2	8.9	Q8132	0	0	3.4	Q8802	0	0.4	73.2
Q8102	0	0.3	4.3	Q8115	8.6	8.9	0	Q8135	2.6	3.2	8.9	Q8807	0	6.3	0
Q8103	4.0	0	8.9	Q8118	0	0	5.0	Q8136	2.5	1.8	0	Q8818	0	0	5.0
Q8104	0	0.4	3.1	Q8119	0.7	1.4	0	Q8137	1.8	2.5	8.9	Q8822	5.5	4.9	0
Q8105	0	0.4	3.2	Q8120	0.7	2.3	0	Q8201	0	0.6	3.9	Q8823	8.9	8.5	0
Q8106	0	0.3	4.3	Q8122	0.5	1.4	0	Q8202	0	0.8	3.4	Q8805	0	2.5	33
Q8107	0	0.3	4.2	Q8123	0.5	1.4	0	Q8203	1.4	0.9	0	Q8806	0	1.2	135
Q8108	2.4	3.2	0	Q8127	1.4	1.5	0	Q8455	1.1	1.7	8.9	Q8851	0	5.4	81.5

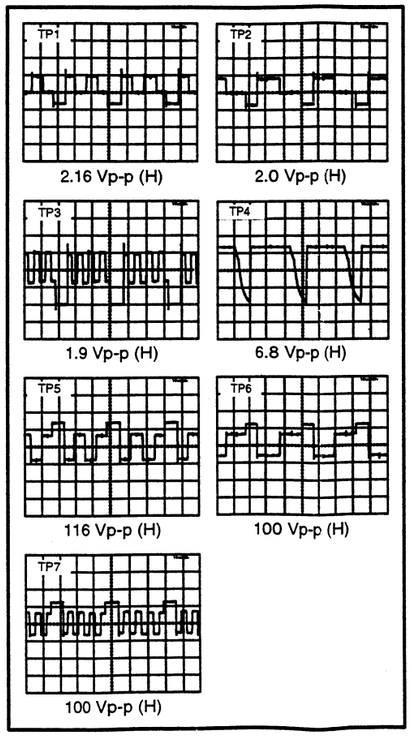


~ C Board Schematic Diagram [R-G-B Out] ~

~ C Printed Wiring Board Conductor side ~



~ C Board Waveforms ~



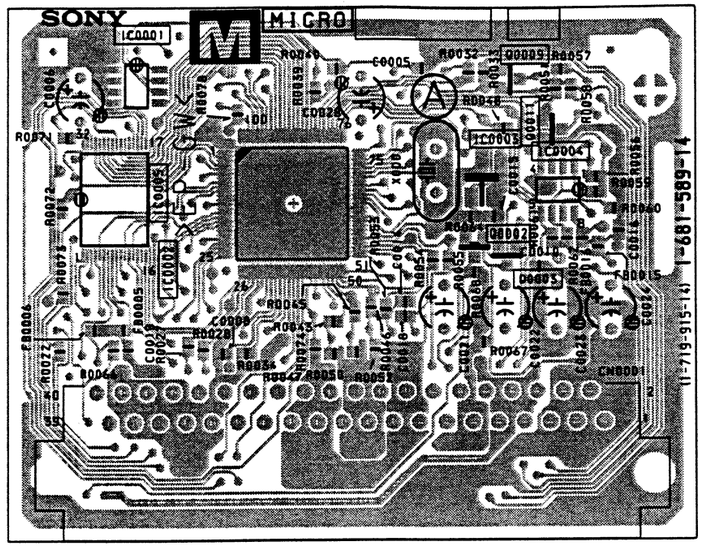
~ C Board Semiconductor Voltage Table ~

Ref	(e)	(b)	(c)
Q7350	12	11.98	0
Q7352	0	0	3.8
Q7353	0	0	3.8
Q7354	11.98	12	0
Q7355	0	0	3.8

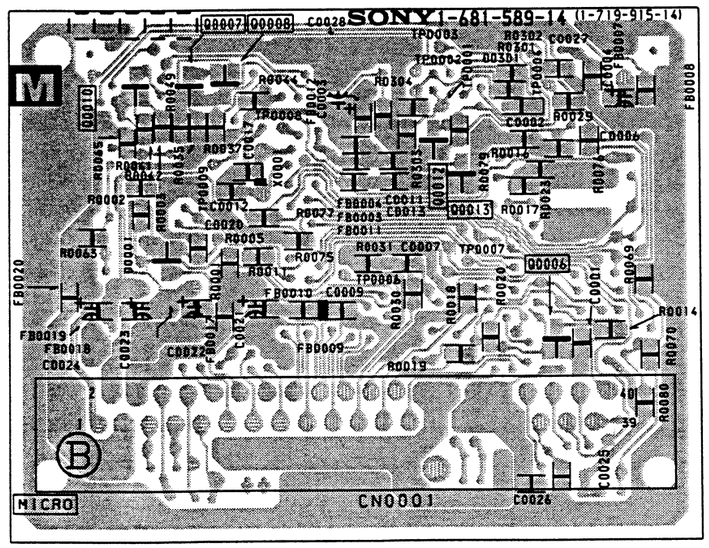
~ C Board IC Voltage Table ~

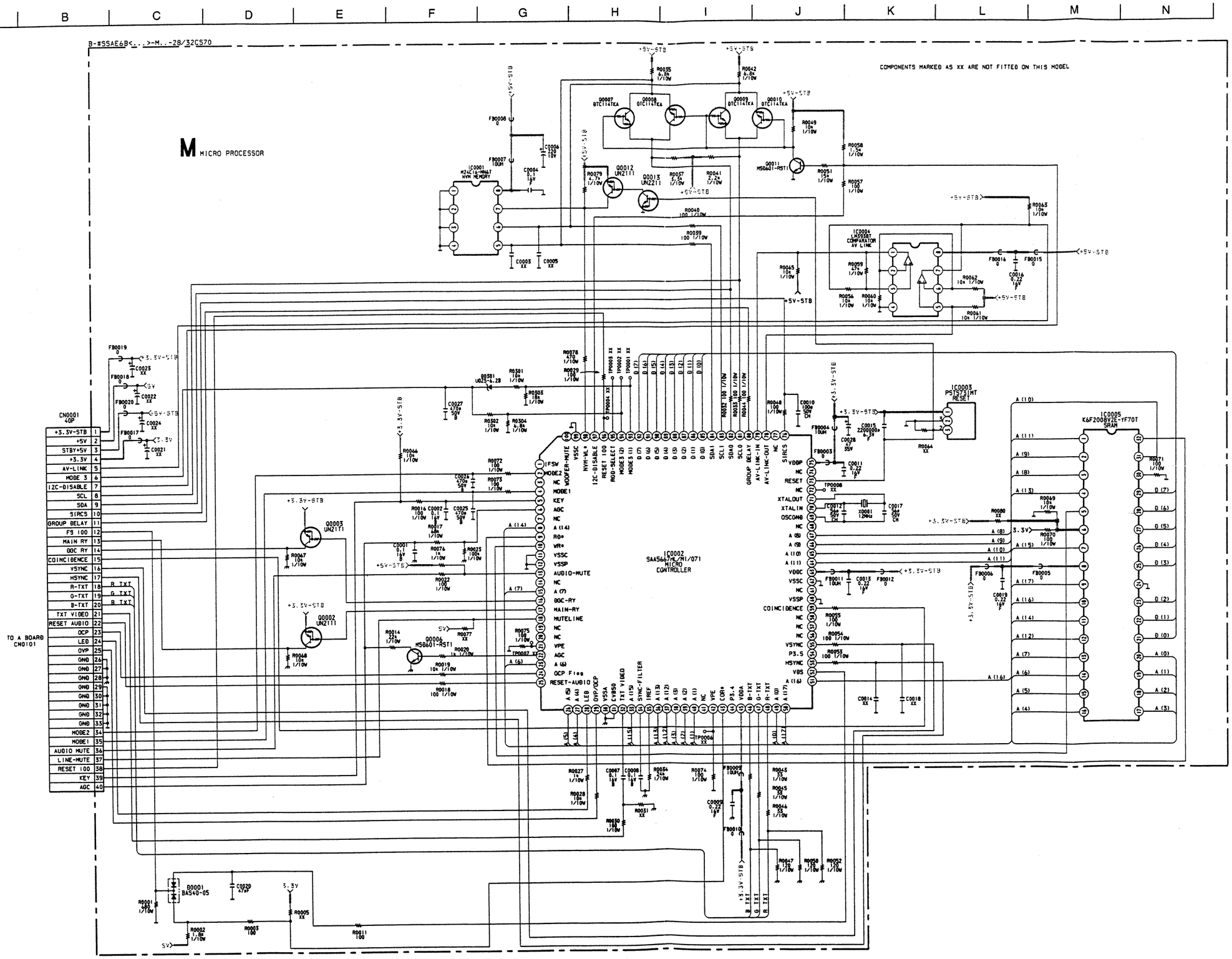
IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC7300	1	3.9
	3	3.8
	5	7.5
	6	200
	7	140
	8	153
	9	140
IC7325	1	3.9
	3	3.8
	5	7.7
	6	200
	7	140
	8	153
	9	140
IC7350	1	3.9
	3	3.8
	5	7.5
	6	200
	7	139
	8	148
	9	138

~ M Printed Wiring Board Conductor side A ~



~ M Printed Wiring Board Conductor side B ~





~ M Board Schematic Diagram [Micro Processor] ~

5-4. SEMICONDUCTORS

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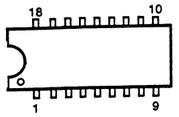
MCZ3001D



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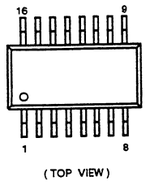
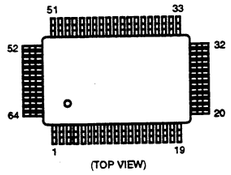


CXA2100AQ-TL



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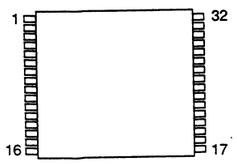

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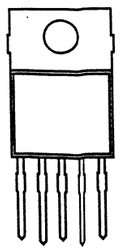

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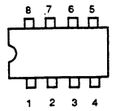
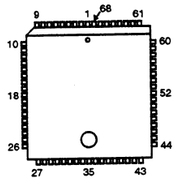
LM393N
M24C16-MN6T(A)



LM78L05ACZ

MSP3411G-QA-B10



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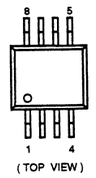
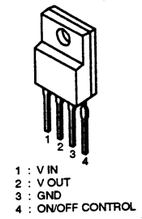


PQ30RV11



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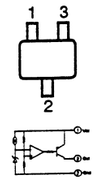

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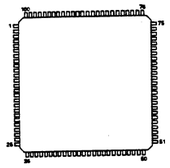

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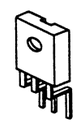

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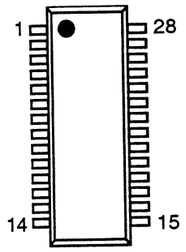

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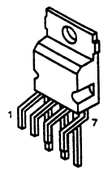

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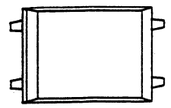

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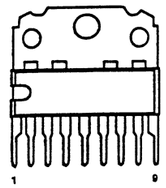

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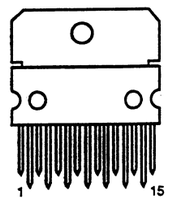

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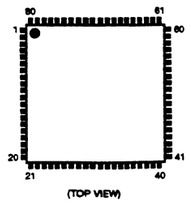

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IRF620
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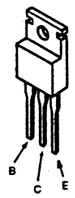
2SA2005
2SC5511



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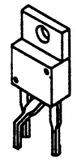
2SA1162-G

DTA144ESA
2SA933AS-QT
2SC2785-HFE

L7809CV/LSY
STP5NB40FP
STP5NB40(030Y)
2SC5698-CA
2S5696-SONY-CA



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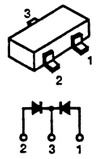
UN213
2SK2036(TE85L)

RB705D



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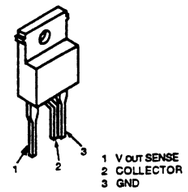

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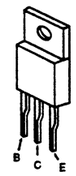

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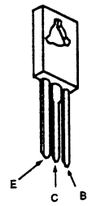

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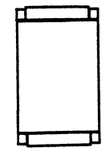

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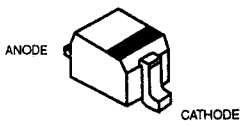

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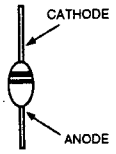

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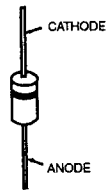
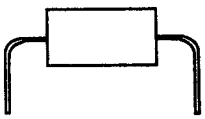


D2S4MTA1



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MTZJ-33B
MTZJ-3.6A
MTZJ-4.7C
MTZJ-T-77-22
RD15ES-B2
RD39ES-B2
RD5.6ESB2
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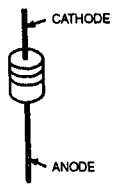

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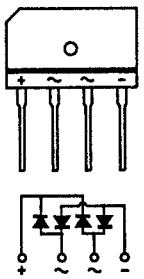

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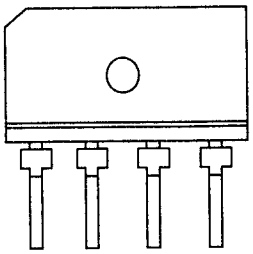

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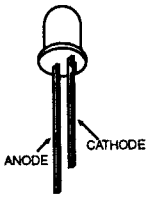
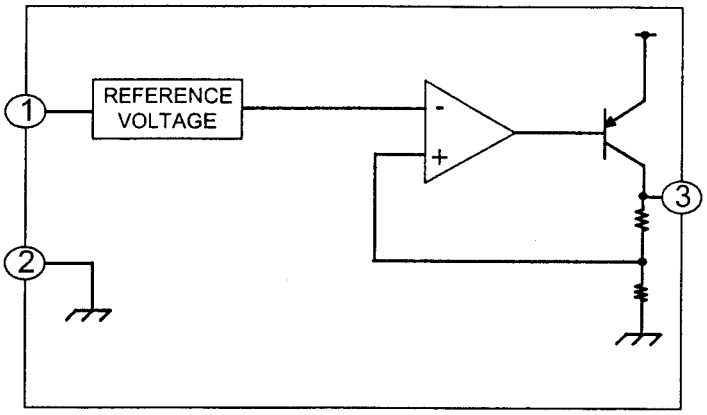
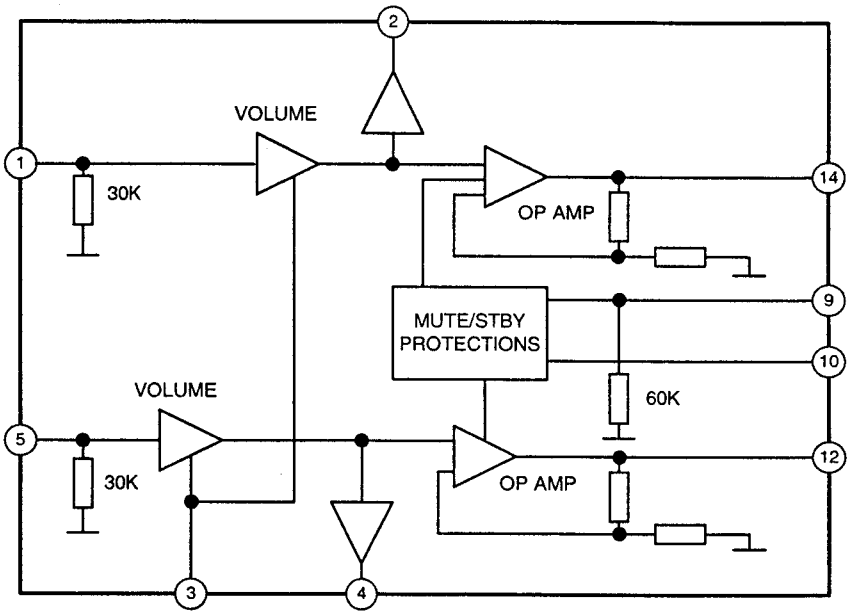


5-5 IC BLOCK DIAGRAMS

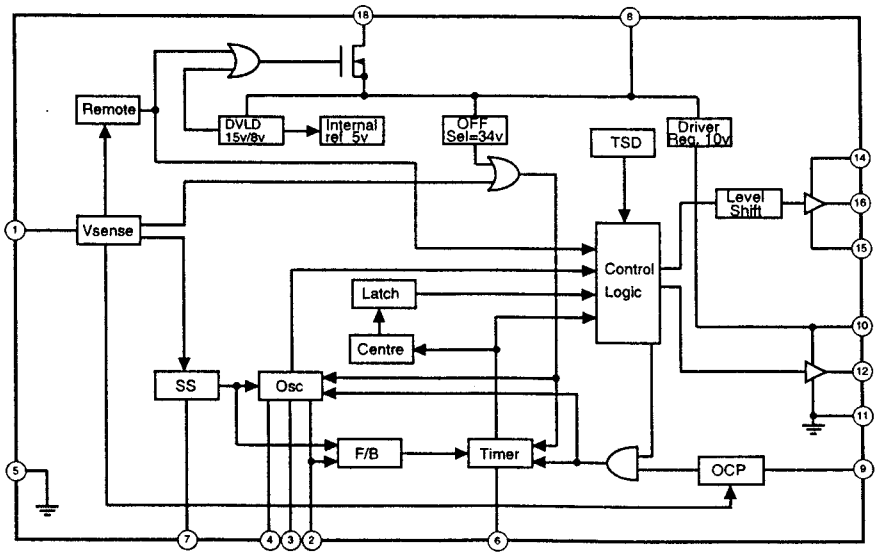
A BOARD IC6202/IC6205 BA033T/BA12T



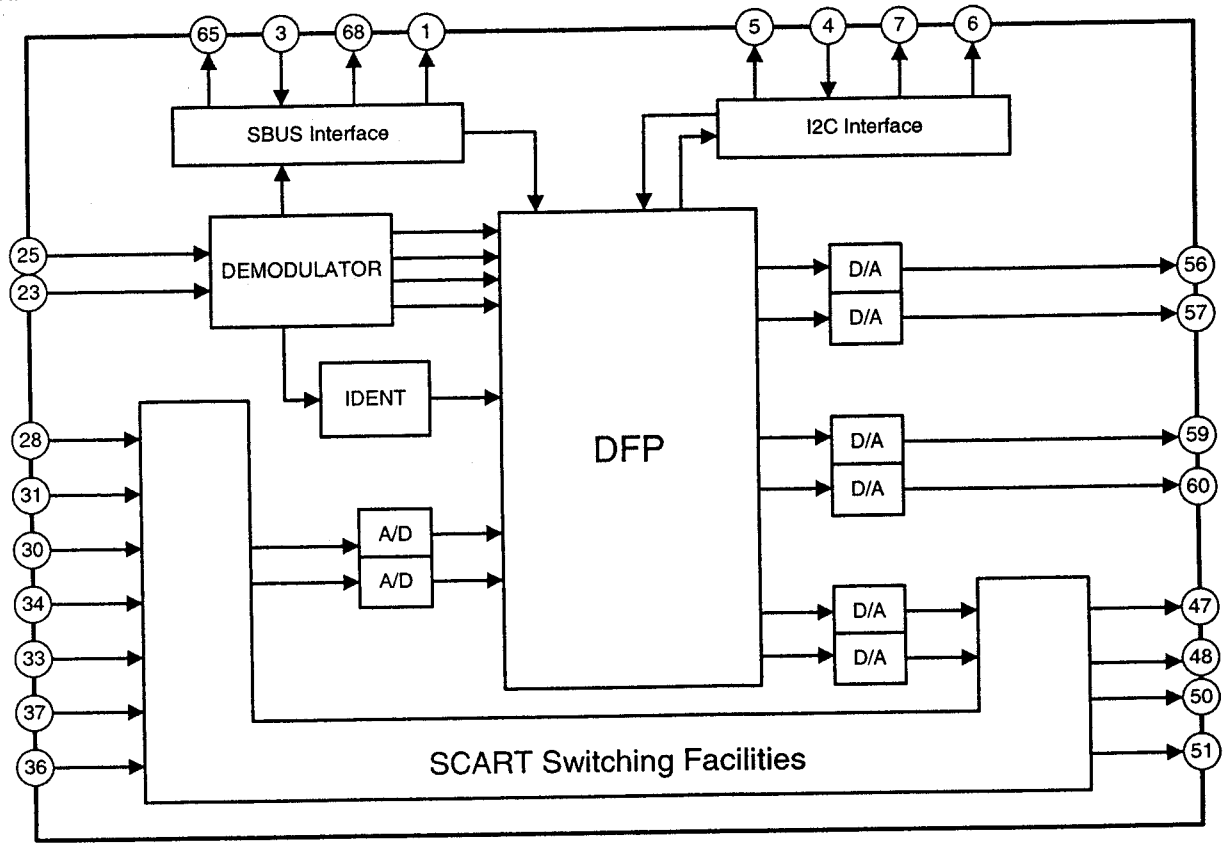
A BOARD IC2500 TDA7497



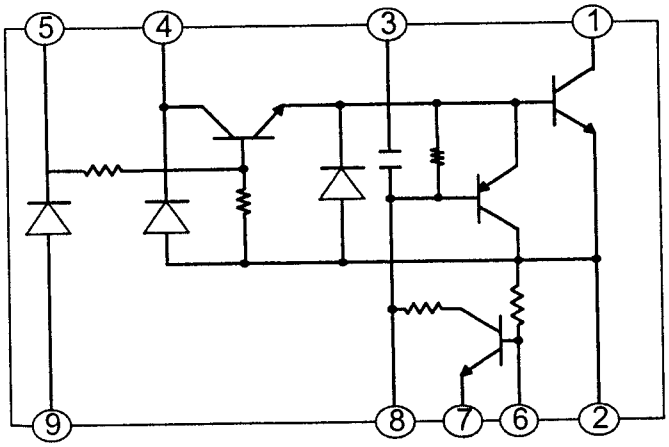
G BOARD IC6001 MCZ3001D



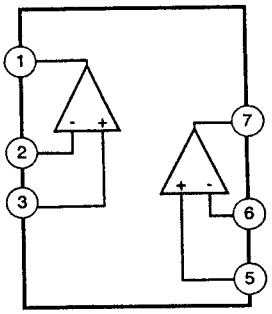
A BOARD IC2000 MSP3411G



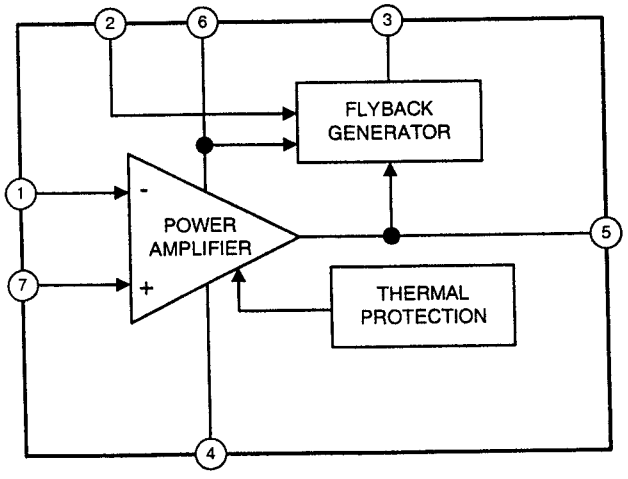
G BOARD IC6003 SE135N-LF4



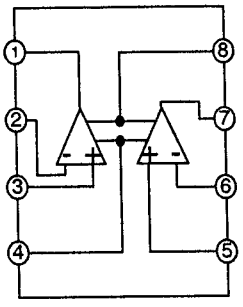
A BOARD IC5301/IC5302 LM393N



A BOARD IC5400 STV9379A



A BOARD IC5300 LM358N



SECTION 6
EXPLODED VIEWS

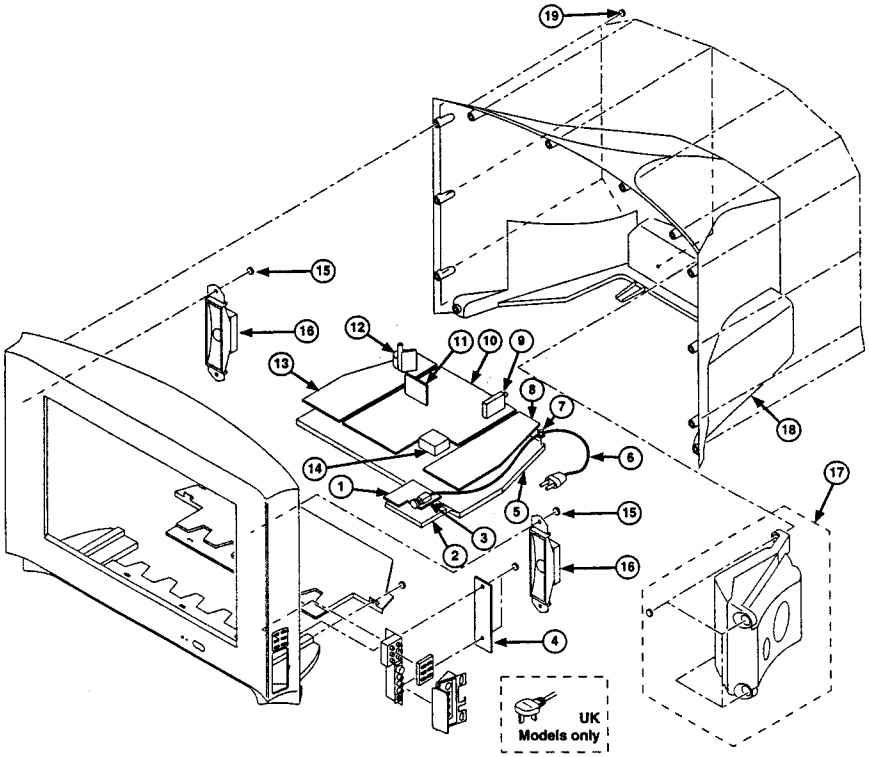
NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

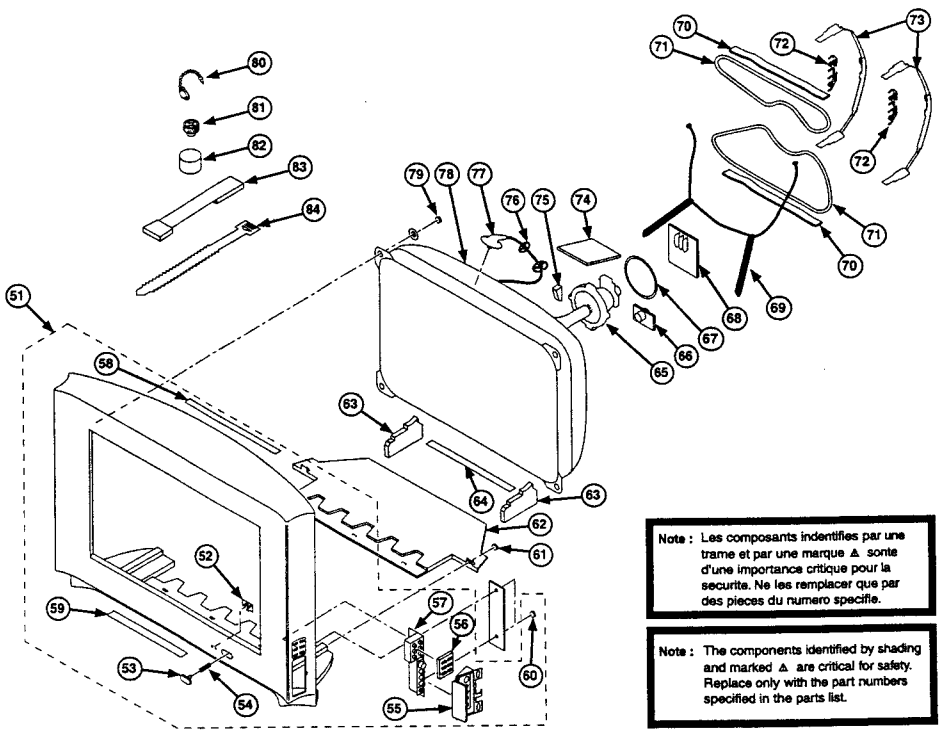
Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

6-1. CHASSIS



REF.NO.		PART.NO	DESCRIPTION	REMARK
1		*A-1410-981-A	F5 BOARD, COMPLETE	
2		*4-102-697-11	F BRACKET (KV28CS70)	
		*4-102-697-01	F BRACKET (KV32CS70)	
3	⚠	1-571-435-21	SWITCH, PUSH (AC POWER)	
4		*A-1415-840-A	H6 BOARD COMPLETE	
5		*4-206-106-33	BRACKET, MAIN (KV28CS70)	
		*4-206-106-06	BRACKET, MAIN (KV32CS70)	
6	⚠	1-776-204-12	CORD, POWER FILTER (KV28CS70)	
	⚠	1-765-286-11	CORD, POWER (KV32CS70)	
7		*4-202-531-01	AC CORD LOCK (SC)	
8		*A-1300-179-A	G BOARD, COMPLETE	
9		8-598-623-10	TUNER, FSS BTP-AC421 (KV-28CS70B/E/ KV-32CS70B/E/K)	
		8-598-624-10	TUNER, FSS BTP-AU621 (KV-28CS70U/ KV-32CS70U)	
10		*A-1055-725-A	A BOARD, COMPLETE (KV-28CS70B)	
		*A-1062-981-A	A BOARD, COMPLETE (KV-28CS70E)	
		*A-1063-011-A	A BOARD, COMPLETE (KV-28CS70U)	
		*A-1055-720-A	A BOARD, COMPLETE (KV-32CS70B)	
		*A-1060-570-A	A BOARD, COMPLETE (KV-32CS70E)	
		*A-1060-570-A	A BOARD, COMPLETE (KV-32CS70K)	
		*A-1060-567-A	A BOARD, COMPLETE (KV-32CS70U)	
11		*A-1300-287-A	M BOARD, COMPLETE	
12	⚠	1-453-240-11	TRANSFORMER ASSY, FLYBACK (NI-4522//3284)	
13		*A-1062-906-A	D BOARD, COMPLETE (KV28CS70)	
		*A-1060-868-A	D BOARD, COMPLETE (KV32CS70)	
14		1-424-855-11	COIL, CHOKE 29MMH	
15		4-384-096-01	SCREW (4x16), TAPPING +P (KV28CS70)	
		4-058-870-01	SCREW (4x16)W(+)P TAPPING (KV32CS70)	
16		1-825-859-11	LOUDSPEAKER (5.5x15CM)	
17		*1-825-860-11	WOOFER ASSY	
18		4-103-127-01	COVER REAR (KV28CS70)	
		4-102-696-01	REAR COVER (KV32CS70)	
19		4-039-356-01	SCREW (3x12) (+)BV TAPPING (KV28CS70)	
		7-685-648-79	SCREW +BVTP 3x12 TYPE2 IT-3 (KV32CS70)	

6-2. PICTURE TUBE



REF.NO.		PART.NO	DESCRIPTION	REMARK
51		*X-2021-122-1	BEZEL ASSY (KV-28CS70)	52-60
		*X-2021-118-1	BEZEL ASSY (KV-32CS70)	52-60
52		4-205-375-11	GUIDE, LIGHT (KV-28CS70)	
		4-205-375-01	GUIDE, LIGHT (KV-32CS70)	
53		4-102-532-31	POWER BUTTON (KV-28CS70)	
54		4-204-964-11	SPRING	
55		*4-102-700-11	SIDE COVER (KV-28CS70)	
		*4-102-700-01	SIDE COVER (KV-32CS70)	
56		*4-102-698-11	MULTI BUTTON (KV-28CS70)	
		*4-102-698-01	MULTI BUTTON (KV-32CS70)	
57		*4-102-699-11	SIDE BRACKET (KV-28CS70)	
		*4-102-699-01	SIDE BRACKET (KV-32CS70)	
58		4-204-865-01	SHEET BLOTTING (KV-32CS70)	
59		4-204-865-21	SHEET BLOTTING (KV-32CS70)	
60		7-685-648-79	SCREW +BVTP 3x12 TYPE2 IT-3	
61		4-384-096-01	SCREW (4x16), TAPPING, +P (KV-28CS70)	
		4-058-870-01	SCREW (4x16)W(+)P TAPPING (KV-32CS70)	
62		*4-103-133-01	CHASSIS BRACKET (KV-28CS70)	
		*4-102-519-01	CHASSIS BRACKET (KV-32CS70)	
63		*4-206-160-01	SUPPORT CRT (KV-28CS70)	
64		4-204-666-01	SHEET BLOTTING (KV-32CS70)	
65	⚠	8-451-540-11	DEFLECTION YOKE (T28VECP-L) (KV-28CS70)	
	⚠	1-451-575-11	DEFLECTION YOKE (T32VECP-T) (KV-32CS70)	
66	⚠	8-453-021-21	NECK ASSY, (NA2919-M2)	
67		1-419-363-11	COIL, NA ROTATION (RT-200) (KV-28CS70)	
		1-452-896-11	COIL, NA ROTATION (RT-200) (KV-32CS70)	
68		*A-1303-026-A	C BOARD, COMPLETE	
69		4-200-433-01	SPRING, EXTENSION (KV-28CS70)	
		4-089-228-01	SPRING, EXTENSION (KV-32CS70)	
70		*4-203-390-71	CUSHION, DGC (KV-28CS70)	
		*4-203-390-41	CUSHION, DGC (KV-32CS70)	
71	⚠	1-424-886-11	COIL, DEGAUSSING (KV-28CS70)	
	⚠	1-424-888-11	COIL, DEGAUSSING (KV-32CS70)	

CONTINUED ON NEXT PAGE

REF.NO.		PART.NO	DESCRIPTION	REMARK
72		4-079-355-01	CLIP, DGC (KV-28CS70)	
		2-023-248-01	DGC CLIP (KV-32CS70)	
73		4-093-607-01	HOLDER, DGC (KV-28CS70)	
74		*A-1071-321-A	VM BOARD, COMPLETE (KV-28CS70)	
		*A-1055-723-A	VM BOARD, COMPLETE (KV-32CS70)	
75		4-203-658-01	SPACER, DY (KV-28CS70)	
		4-086-199-02	SPACER, DY (KV-32CS70)	
76		4-202-693-01	HOLDER, HV CABLE (KV-28CS70)	
		4-202-554-02	HOLDER, HV CABLE (KV-32CS70)	
77	⚠	1-251-946-21	CAP ASST, HIGH-VOLTAGE (KV-28CS70)	
	⚠	1-251-374-33	CAP ASST, HIGH-VOLTAGE (KV-32CS70)	
78	⚠	*8-737-794-05	PICTURE TUBE (W66LWS000X) (KV-28CS70)	
	⚠	*8-735-217-05	PICTURE TUBE (W76LWN000X) (KV-32CS70)	
79		4-036-188-01	SCREW, SELF TAPPING (KV-28CS70)	
		4-046-765-12	SCREW, TAPPING 7+CROWN WASHER (KV-32CS70)	
80		4-308-870-00	CLIP, LEAD WIRE	
81		1-452-014-11	CIRCULAR DISC MAGNET B	
82		1-452-032-00	MAGNET, DISK	
83		X-4387-214-1	PERMALLOY, CORRECTION	
84		3-701-007-00	BAND, BINDING	

SECTION 7
ELECTRICAL PARTS LIST

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Note : Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
Parts indicated (XX) on the Schematic Diagram are not used in this model and therefore do not appear in the Parts List.

REF.NO.	PART.NO	DESCRIPTION	REMARK
* A-1055-725-A		A Board Complete KV-28CS70B	
* A-1062-981-A		A Board Complete KV-28CS70E	
* A-1063-011-A		A Board Complete KV-28CS70U	
* A-1055-720-A		A Board Complete KV-32CS70B	
* A-1060-570-A		A Board Complete KV-32CS70E	
* A-1060-570-A		A Board Complete KV-32CS70K	
* A-1060-567-A		A Board Complete KV-32CS70U	
A Board Common Parts			
	4-382-854-01	SCREW (M3X8), P, SW (+)	
		< CAPACITOR >	
C1002	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C1003	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C1004	1-126-933-11	ELECT 100UF	20.00% 16V
C1005	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1006	1-126-933-11	ELECT 100UF	20.00% 16V
C1008	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C1010	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1011	1-126-947-11	ELECT 47UF	20.00% 35V
C1012	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1013	1-163-131-00	CERAMIC CHIP 390PF	5.00% 50V
C1014	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1015	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1016	1-125-891-11	CERAMIC CHIP 0.47UF	10.00% 10V
C1017	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C1018	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C1019	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C1020	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C1021	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C1024	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C1025	1-216-864-11	SHORT CHIP 0	
C1026	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1027	1-162-926-11	CERAMIC CHIP 82PF	5.00% 50V
C1028	1-164-388-91	CERAMIC CHIP 270PF	5.00% 50V
C1029	1-162-915-11	CERAMIC CHIP 10PF	0.50PF 50V
C1030	1-162-928-11	CERAMIC CHIP 120PF	5.00% 50V
C1031	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1034	1-126-933-11	ELECT 100UF	20.00% 16V
C1035	1-126-964-11	ELECT 10UF	20.00% 50V
C1037	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C1039	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C1040	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2000	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2001	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2006	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2007	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2008	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2009	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2010	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2011	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2012	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2013	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2014	1-164-346-11	CERAMIC CHIP 1UF	16V
C2015	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2016	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2018	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2019	1-164-346-11	CERAMIC CHIP 1UF	16V
C2021	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2022	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2023	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2024	1-164-346-11	CERAMIC CHIP 1UF	16V
C2026	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2027	1-126-947-11	ELECT 47UF	20.00% 35V
C2028	1-126-947-11	ELECT 47UF	20.00% 35V
C2029	1-164-346-11	CERAMIC CHIP 1UF	16V
C2031	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2034	1-164-346-11	CERAMIC CHIP 1UF	16V
C2035	1-164-346-11	CERAMIC CHIP 1UF	16V
C2038	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2039	1-162-906-11	CERAMIC CHIP 1.5PF	0.25PF 50V
C2040	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2041	1-162-906-11	CERAMIC CHIP 1.5PF	0.25PF 50V
C2042	1-216-864-11	SHORT CHIP 0	
C2043	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2044	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2046	1-162-923-11	CERAMIC CHIP 47PF	5.00% 50V
C2047	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C2048	1-126-947-11	ELECT 47UF	20.00% 35V
C2049	1-162-925-11	CERAMIC CHIP 68PF	5.00% 50V
C2050	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C2051	1-126-964-11	ELECT 10UF	20.00% 50V
C2052	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2053	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C2054	1-126-947-11	ELECT 47UF	20.00% 35V
C2055	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2057	1-126-964-11	ELECT 10UF	20.00% 50V
C2058	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2059	1-126-964-11	ELECT 10UF	20.00% 50V
C2060	1-126-947-11	ELECT 47UF	20.00% 35V
C2061	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C2062	1-164-346-11	CERAMIC CHIP 1UF	16V
C2063	1-164-346-11	CERAMIC CHIP 1UF	16V
C2064	1-126-964-11	ELECT 10UF	20.00% 50V
C2065	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2066	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C2069	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C2073	1-126-960-11	ELECT 1UF	20.00% 50V
C2074	1-126-960-11	ELECT 1UF	20.00% 50V
C2075	1-126-960-11	ELECT 1UF	20.00% 50V
C2077	1-126-960-11	ELECT 1UF	20.00% 50V
C2078	1-126-963-11	ELECT 4.7UF	20.00% 50V
C2079	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2080	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C2081	1-162-928-11	CERAMIC CHIP 120PF	5.00% 50V
C2082	1-216-864-11	SHORT CHIP 0	
C2083	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2084	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2085	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2086	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2087	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2088	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C2089	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C2090	1-126-947-11	ELECT 47UF	20.00% 35V
C2091	1-126-947-11	ELECT 47UF	20.00% 35V
C2092	1-126-947-11	ELECT 47UF	20.00% 35V
C2093	1-126-947-11	ELECT 47UF	20.00% 35V
C2094	1-126-947-11	ELECT 47UF	20.00% 35V
C2095	1-126-947-11	ELECT 47UF	20.00% 35V
C2096	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2500	1-126-952-11	ELECT 1000UF	20.00% 35V
C2502	1-104-666-11	ELECT 220UF	20.00% 25V
C2504	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C2505	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C2506	1-126-972-11	ELECT 1000UF	20.00% 50V
C2507	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C2508	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C2509	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C2510	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C2511	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2512	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C2513	1-126-952-11	ELECT 1000UF	20.00% 35V
C2515	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C2516	1-126-953-11	ELECT 2200UF	20.00% 35V
C2517	1-126-960-11	ELECT 1UF	20.00% 50V
C2518	1-126-960-11	ELECT 1UF	20.00% 50V
C2519	1-126-959-11	ELECT 0.47UF	20.00% 50V
C2521	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C2523	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C3200	1-126-964-11	ELECT 10UF	20.00% 50V
C3202	1-126-964-11	ELECT 10UF	20.00% 50V
C3203	1-126-964-11	ELECT 10UF	20.00% 50V
C3206	1-126-964-11	ELECT 10UF	20.00% 50V
C3208	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C3209	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C3210	1-126-964-11	ELECT 10UF	20.00% 50V
C3211	1-126-964-11	ELECT 10UF	20.00% 50V
C3213	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3214	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3215	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3216	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3217	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3218	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3219	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3220	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3221	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3222	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3223	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3224	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3225	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3226	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3227	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3228	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3229	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3230	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3231	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3232	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3233	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3234	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3235	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3236	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3237	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3238	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3239	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3240	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C3241	1-126-933-11	ELECT 100UF	20.00% 16V
C3242	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C3243	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C3245	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C3250	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C3300	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C3309	1-126-964-11	ELECT 10UF	20.00% 50V
C3310	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C5103	1-126-960-11	ELECT 1UF	20.00% 50V
C5106	1-126-933-11	ELECT 100UF	20.00% 16V
C5109	1-126-964-11	ELECT 10UF	20.00% 50V
C5110	1-126-947-11	ELECT 47UF	20.00% 35V
C5111	1-126-964-11	ELECT 10UF	20.00% 50V
C5112	1-126-964-11	ELECT 10UF	20.00% 50V
C5114	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5115	1-126-964-11	ELECT 10UF	20.00% 50V
C5117	1-126-964-11	ELECT 10UF	20.00% 50V
C5118	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5119	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C5120	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5121	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5122	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5124	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5125	1-126-964-11	ELECT 10UF	20.00% 50V
C5300	1-126-933-11	ELECT 100UF	20.00% 16V
C5301	1-126-947-11	ELECT 47UF	20.00% 35V

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REF.NO.	PART.NO	DESCRIPTION	REMARK
C5302	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C5303	1-136-153-00	FILM 0.01UF	5.00% 50V
C5304	1-164-182-11	CERAMIC CHIP 0.0033UF	10.00% 50V
C5305	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5306	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5307	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5309	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C5310	1-136-497-81	FILM 0.1UF	5.00% 50V
C5311	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5312	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5313	1-107-714-11	ELECT 10UF	20.00% 50V
C5314	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5316	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C5318	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5319	1-136-347-11	FILM 0.0047UF	5.00% 630V
C5322	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5323	1-136-159-00	FILM 0.033UF	5.00% 50V
C5400	1-126-964-11	ELECT 10UF	20.00% 50V
C5401	1-107-714-11	ELECT 10UF	20.00% 50V
C5403	1-128-527-11	ELECT 330UF	20.00% 25V
C5404	1-102-228-00	CERAMIC 470PF	10.00% 500V
C5405	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C5406	1-129-702-00	MYLAR 0.001UF	10.00% 400V
C5407	1-128-527-11	ELECT 330UF	20.00% 25V
C5409	1-126-968-11	ELECT 100UF	20.00% 50V
C5410	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C5411	1-137-401-11	MYLAR 0.22UF	5.00% 100V
C5412	1-106-220-00	MYLAR 0.1UF	10.00% 100V
C5413	1-130-785-11	MYLAR 0.47UF	5.00% 100V
C5414	1-126-964-11	ELECT 10UF	20.00% 50V
C5801	1-126-963-11	ELECT 4.7UF	20.00% 50V
C5850	1-126-963-11	ELECT 4.7UF	20.00% 50V
C5851	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5854	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5858	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5859	1-126-960-11	ELECT 1UF	20.00% 50V
C5860	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5872	1-164-346-11	CERAMIC CHIP 1UF	16V
C5873	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C5888	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5889	1-126-964-11	ELECT 10UF	20.00% 50V
C5890	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C5891	1-137-581-11	FILM 0.1UF	5.00% 100V
C5892	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C5893	1-126-947-11	ELECT 47UF	20.00% 35V
C5894	1-126-947-11	ELECT 47UF	20.00% 35V
C5895	1-164-156-11	CERAMIC CHIP 0.1UF	25V
C5896	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C5897	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5898	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C5899	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C6200	1-126-933-11	ELECT 100UF	20.00% 16V
C6201	1-126-935-11	ELECT 470UF	20.00% 16V
C6202	1-126-933-11	ELECT 100UF	20.00% 16V
C6203	1-126-925-91	ELECT 470UF	20.00% 10V
C6204	1-126-933-11	ELECT 100UF	20.00% 16V
C6205	1-126-925-91	ELECT 470UF	20.00% 10V
C6206	1-126-933-11	ELECT 100UF	20.00% 16V
C6207	1-126-933-11	ELECT 100UF	20.00% 16V
C6208	1-126-933-11	ELECT 100UF	20.00% 16V
C6209	1-126-933-11	ELECT 100UF	20.00% 16V
C6210	1-126-935-11	ELECT 470UF	20.00% 16V
C6211	1-126-947-11	ELECT 47UF	20.00% 35V
C6212	1-126-933-11	ELECT 100UF	20.00% 16V
C6213	1-126-933-11	ELECT 100UF	20.00% 16V
C6214	1-126-933-11	ELECT 100UF	20.00% 16V
C7002	1-126-947-11	ELECT 47UF	20.00% 35V
C7004	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7008	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7016	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C7018	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7019	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7020	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7021	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7022	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7023	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7030	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7031	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7032	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7038	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C7039	1-162-966-11	CERAMIC CHIP 0.0022UF	10.00% 50V
C7050	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C7051	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7052	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7053	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7054	1-126-963-11	ELECT 4.7UF	20.00% 50V
C7055	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7056	1-126-933-11	ELECT 100UF	20.00% 16V
C7057	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7058	1-126-933-11	ELECT 100UF	20.00% 16V
C7059	1-126-933-11	ELECT 100UF	20.00% 16V
C7060	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7061	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7062	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7063	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7064	1-126-947-11	ELECT 47UF	20.00% 35V
C7065	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7067	1-126-947-11	ELECT 47UF	20.00% 35V
C7068	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7069	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V

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REF.NO.	PART.NO	DESCRIPTION	REMARK
C7070	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7071	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
		< CONNECTOR >	
CN0101	* 1-823-330-11	CONNECTOR, BOARD TO BOARD 40P	
CN0102	* 1-564-520-11	PLUG, CONNECTOR 5P	
CN0103	* 1-817-035-61	PLUG, CONNECTOR 4P	
CN1000	* 1-417-319-11	CONNECTOR (SQUARE TYPE) 21P	
CN2000	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN2500	* 1-816-974-51	PLUG, CONNECTOR 3P	
CN2501	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN2502	* 1-816-977-51	PLUG, CONNECTOR 6P	
CN5002	* 1-816-984-71	PLUG, CONNECTOR 7P	
CN5100	* 1-816-974-51	PLUG, CONNECTOR 3P	
CN5801	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P	
CN6200	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN6202	* 1-564-516-11	PLUG, CONNECTOR 13P	
CN6203	1-695-915-11	TAB (CONTACT)	
CN7000	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN7001	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN8001	1-766-281-11	PIN, CONNECTOR (PC BOARD) 8P	
		< DIODE >	
D0101	8-719-921-88	DIODE MTZJ-13B	
D0104	8-719-109-89	DIODE RD5.6ESB2	
D0110	8-719-109-89	DIODE RD5.6ESB2	
D0111	8-719-929-15	DIODE HZS9.1NB2	
D0112	8-719-921-88	DIODE MTZJ-13B	
D0113	8-719-921-88	DIODE MTZJ-13B	
D1002	8-719-050-38	DIODE M1MA152WK-T1	
D2014	8-719-929-15	DIODE HZS9.1NB2	
D2015	8-719-929-15	DIODE HZS9.1NB2	
D2016	8-719-050-38	DIODE M1MA152WK-T1	
D2018	8-719-929-15	DIODE HZS9.1NB2	
D2019	8-719-929-15	DIODE HZS9.1NB2	
D2500	8-719-050-38	DIODE M1MA152WK-T1	
D2502	8-719-109-89	DIODE RD5.6ESB2	
D2503	8-719-050-38	DIODE M1MA152WK-T1	
D3001	8-719-929-15	DIODE HZS9.1NB2	
D3003	8-719-929-15	DIODE HZS9.1NB2	
D3005	8-719-929-15	DIODE HZS9.1NB2	
D3007	8-719-109-89	DIODE RD5.6ESB2	
D3008	8-719-109-89	DIODE RD5.6ESB2	
D3009	8-719-929-15	DIODE HZS9.1NB2	
D3011	8-719-929-15	DIODE HZS9.1NB2	
D3013	8-719-929-15	DIODE HZS9.1NB2	
D3015	8-719-929-15	DIODE HZS9.1NB2	
D3017	8-719-109-89	DIODE RD5.6ESB2	
D3018	8-719-109-89	DIODE RD5.6ESB2	

REF.NO.	PART.NO	DESCRIPTION	REMARK
D3019	8-719-929-15	DIODE HZS9.1NB2	
D3021	8-719-929-15	DIODE HZS9.1NB2	
D3023	8-719-109-89	DIODE RD5.6ESB2	
D3024	8-719-929-15	DIODE HZS9.1NB2	
D3026	8-719-929-15	DIODE HZS9.1NB2	
D3028	8-719-929-15	DIODE HZS9.1NB2	
D3201	8-719-109-89	DIODE RD5.6ESB2	
D5101	8-719-050-38	DIODE M1MA152WK-T1	
D5103	8-719-110-86	DIODE RD39ESB	
D5104	8-719-109-89	DIODE RD5.6ESB2	
D5300	8-719-081-97	DIODE MMDL914T1	
D5303	8-719-081-97	DIODE MMDL914T1	
D5304	8-719-081-97	DIODE MMDL914T1	
D5305	8-719-991-33	DIODE 1SS133T-77	
D5306	8-719-302-43	DIODE EL1Z	
D5307	8-719-987-87	DIODE ERA85-009	
D5309	8-719-081-97	DIODE MMDL914T1	
D5310	8-719-081-97	DIODE MMDL914T1	
D5400	8-719-982-03	DIODE MTZJ-3.6A	
D5401	8-719-050-38	DIODE M1MA152WK-T1	
D5404	8-719-110-41	DIODE RD15ESB2	
D5405	8-719-908-03	DIODE GP08D	
D5406	8-719-081-97	DIODE MMDL914T1	
D5407	8-719-081-97	DIODE MMDL914T1	
D5804	8-719-109-89	DIODE RD5.6ESB2	
D5807	8-719-929-15	DIODE HZS9.1NB2	
D5809	8-719-050-38	DIODE M1MA152WK-T1	
D5811	8-719-081-97	DIODE MMDL914T1	
D5812	8-719-081-97	DIODE MMDL914T1	
D5813	8-719-081-97	DIODE MMDL914T1	
D5814	1-216-295-91	SHORT CHIP 0	
D6200	8-719-063-70	DIODE D1NL20U	
D7004	8-719-929-15	DIODE HZS9.1NB2	
D7006	1-216-809-11	METAL CHIP 100 5% 1/10W	
		< FERRITE BEAD >	
FB3001	1-414-760-21	FERRITE 0UH	
		< FILTER >	
FL2000	1-239-803-11	FILTER, EMI	
		< IC >	
IC1001	6-704-747-01	IC TDA9886TS/V4B	
IC2000	6-701-031-11	IC MSP3411G-QA-B11	
IC2001	8-759-100-96	IC UPC4558G2	
IC2500	8-759-831-56	IC TDA7497	
IC3200	6-706-076-01	IC VSP9402A-VK-B13G	
IC5102	8-759-325-48	IC CA0005AD	
IC5103	8-752-072-94	IC CXA1875AM-T4	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

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REF.NO.	PART.NO	DESCRIPTION	REMARK
IC5104	8-759-803-42	IC LA6500-FA	
IC5300	6-705-207-01	IC LM358N	
IC5301	6-705-209-01	IC LM393N	
IC5302	6-705-209-01	IC LM393N	
IC5400	8-759-696-71	IC STV9379A	
IC6200	8-759-648-19	IC L7809CV/LSY	
IC6201	8-759-648-20	IC L7805CV/LSY	
IC6202	8-759-445-59	IC BA033T	
IC6203	8-759-098-24	IC PQ30RV11	
IC6204	8-759-591-02	IC L78L33ABE-AP	
IC6205	8-759-394-35	IC BA12T	
IC6206	8-759-991-41	IC LM78L05ACZ	
IC7002	8-752-090-88	IC CXA2100AQ-TL	
		< SOCKET >	
J2000	1-784-632-11	JACK, PIN 2P	
		< COIL >	
L1001	1-412-987-31	INDUCTOR 4.7UH	
L1002	1-412-987-31	INDUCTOR 4.7UH	
L1003	1-414-934-21	INDUCTOR 10UH	
L1004	1-216-864-11	SHORT CHIP 0	
L1005	1-216-864-11	SHORT CHIP 0	
L1006	1-410-509-11	INDUCTOR 10UH	
L1007	1-414-934-21	INDUCTOR 10UH	
L1008	1-414-934-21	INDUCTOR 10UH	
L1009	1-216-864-11	SHORT CHIP 0	
L1010	1-216-864-11	SHORT CHIP 0	
L1011	1-216-864-11	SHORT CHIP 0	
L1012	1-216-864-11	SHORT CHIP 0	
L1013	1-216-864-11	SHORT CHIP 0	
L2000	1-414-934-21	INDUCTOR 10UH	
L2001	1-414-934-21	INDUCTOR 10UH	
L2007	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2008	1-216-295-91	SHORT CHIP 0	
L2009	1-216-295-91	SHORT CHIP 0	
L2010	1-414-928-21	INDUCTOR 1UH	
L2012	1-414-934-21	INDUCTOR 10UH	
L2014	1-408-602-31	INDUCTOR 8.2UH	
L2500	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2501	1-535-303-00	LEAD, JUMPER (5.0MM)	
L3000	1-216-295-91	SHORT CHIP 0	
L3004	1-216-295-91	SHORT CHIP 0	
L3005	1-216-295-91	SHORT CHIP 0	
L3006	1-216-295-91	SHORT CHIP 0	
L3007	1-216-295-91	SHORT CHIP 0	
L3008	1-216-295-91	SHORT CHIP 0	
L3009	1-216-295-91	SHORT CHIP 0	
L3010	1-216-295-91	SHORT CHIP 0	
L3011	1-216-295-91	SHORT CHIP 0	
L3012	1-216-295-91	SHORT CHIP 0	
L3200	1-412-006-31	INDUCTOR 10UH	
L3202	1-412-006-31	INDUCTOR 10UH	
L3203	1-412-006-31	INDUCTOR 10UH	
L3206	1-412-006-31	INDUCTOR 10UH	
L3208	1-412-006-31	INDUCTOR 10UH	
L3209	1-216-864-11	SHORT CHIP 0	
L3300	1-412-006-31	INDUCTOR 10UH	
L5300	1-406-989-21	INDUCTOR 10MH	
L5301	1-406-989-21	INDUCTOR 10MH	
L5400	1-412-524-11	INDUCTOR 8.2UH	
L5896	1-216-864-11	SHORT CHIP 0	
L5897	1-216-864-11	SHORT CHIP 0	
L5898	1-414-934-21	INDUCTOR 10UH	
L5899	1-414-934-21	INDUCTOR 10UH	
L7001	1-414-934-21	INDUCTOR 10UH	
L7009	1-414-934-21	INDUCTOR 10UH	
L7010	1-414-934-21	INDUCTOR 10UH	
L7011	1-414-934-21	INDUCTOR 10UH	
L7012	1-414-934-21	INDUCTOR 10UH	
		< PROTECTOR MODULE >	
		< TRANSISTOR >	
Q1000	8-729-010-05	TRANSISTOR MSB709-RT1	
Q1001	8-729-010-29	TRANSISTOR MSD601-RST1	
Q1002	8-729-421-19	TRANSISTOR UN2213	
Q1003	8-729-421-19	TRANSISTOR UN2213	
Q1004	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q1005	8-729-421-19	TRANSISTOR UN2213	
Q1006	8-729-010-05	TRANSISTOR MSB709-RT1	
Q1008	8-729-421-19	TRANSISTOR UN2213	
Q1009	8-729-010-05	TRANSISTOR MSB709-RT1	
Q2000	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2001	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2002	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2004	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2005	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2501	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2502	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2503	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2504	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3200	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3201	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3202	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3204	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3300	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3301	8-729-010-05	TRANSISTOR MSB709-RT1	

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REF.NO.	PART.NO	DESCRIPTION	REMARK
Q3302	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3500	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q3501	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q5100	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5101	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5300	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5301	8-729-053-33	TRANSISTOR IRF614-037	
Q5302	8-729-140-97	TRANSISTOR 2SB734-34	
Q5303	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5304	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5305	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q5306	8-729-140-97	TRANSISTOR 2SB734-34	
Q5307	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5400	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5401	8-729-421-19	TRANSISTOR UN2213	
Q5402	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5403	8-729-421-19	TRANSISTOR UN2213	
Q5404	8-729-926-76	TRANSISTOR IRF620	
Q5813	8-729-421-19	TRANSISTOR UN2213	
Q5814	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5815	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5816	8-729-010-05	TRANSISTOR MSB709-RT1	
Q6201	8-729-140-97	TRANSISTOR 2SB734-34	
Q7003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7009	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7011	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7012	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7013	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7014	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7015	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7016	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7017	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7018	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7019	8-729-010-29	TRANSISTOR MSD601-RST1	
		< RESISTOR >	
JR1	1-216-864-11	SHORT CHIP 0	
JR2	1-216-864-11	SHORT CHIP 0	
JR121	1-216-864-11	SHORT CHIP 0	
JR123	1-216-864-11	SHORT CHIP 0	
JR1003	1-216-864-11	SHORT CHIP 0	
JR1004	1-216-864-11	SHORT CHIP 0	
JR1009	1-216-864-11	SHORT CHIP 0	
JR2000	1-216-295-91	SHORT CHIP 0	
R0101	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R0102	1-216-827-11	METAL CHIP 3.3K 5% 1/10W	
R0103	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R0104	1-216-827-11	METAL CHIP 3.3K 5% 1/10W	
R0105	1-216-025-11	RES-CHIP 100 5% 1/10W	
R0107	1-216-025-11	RES-CHIP 100 5% 1/10W	
R1000	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R1001	1-216-001-00	RES-CHIP 10 5% 1/10W	
R1002	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R1004	1-216-864-11	SHORT CHIP 0	
R1005	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R1006	1-216-051-00	RES-CHIP 1.2K 5% 1/10W	
R1007	1-216-809-11	METAL CHIP 100 5% 1/10W	
R1008	1-216-864-11	SHORT CHIP 0	
R1009	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R1011	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R1013	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R1014	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R1016	1-216-817-11	METAL CHIP 470 5% 1/10W	
R1018	1-216-830-11	METAL CHIP 5.6K 5% 1/10W	
R1019	1-216-827-11	METAL CHIP 3.3K 5% 1/10W	
R1020	1-216-811-11	METAL CHIP 150 5% 1/10W	
R1021	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R1022	1-216-839-11	METAL CHIP 33K 5% 1/10W	
R1023	1-216-849-11	METAL CHIP 220K 5% 1/10W	
R1024	1-216-839-11	METAL CHIP 33K 5% 1/10W	
R1025	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R1026	1-216-817-11	METAL CHIP 470 5% 1/10W	
R1027	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R1028	1-216-813-11	METAL CHIP 220 5% 1/10W	
R1029	1-216-809-11	METAL CHIP 100 5% 1/10W	
R1030	1-216-819-11	METAL CHIP 680 5% 1/10W	
R1032	1-216-822-11	METAL CHIP 1.2K 5% 1/10W	
R1033	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W	
R1034	1-216-807-11	METAL CHIP 68 5% 1/10W	
R1035	1-216-807-11	METAL CHIP 68 5% 1/10W	
R1036	1-216-814-11	METAL CHIP 270 5% 1/10W	
R1037	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R1038	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R1039	1-216-801-11	METAL CHIP 22 5% 1/10W	
R1041	1-216-812-11	METAL CHIP 180 5% 1/10W	
R1042	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R1045	1-216-864-11	SHORT CHIP 0	
R1046	1-216-809-11	METAL CHIP 100 5% 1/10W	
R1047	1-216-817-11	METAL CHIP 470 5% 1/10W	
R1048	1-216-834-11	METAL CHIP 12K 5% 1/10W	
R1050	1-216-809-11	METAL CHIP 100 5% 1/10W	
R1051	1-216-809-11	METAL CHIP 100 5% 1/10W	
R1052	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R2009	1-216-817-11	METAL CHIP 470 5% 1/10W	
R2010	1-216-817-11	METAL CHIP 470 5% 1/10W	
R2011	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2014	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2015	1-216-295-91	SHORT CHIP 0	
R2017	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2018	1-216-295-91	SHORT CHIP 0	

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REF.NO.	PART.NO	DESCRIPTION	REMARK
R2020	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2023	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2026	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2029	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2032	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2035	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2038	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2041	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2042	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2043	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2044	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2047	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2048	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2050	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R2051	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2052	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2053	1-216-864-11	SHORT CHIP 0	
R2054	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2055	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2056	1-216-815-11	METAL CHIP 330 5% 1/10W	
R2057	1-216-025-11	RES-CHIP 100 5% 1/10W	
R2058	1-216-025-11	RES-CHIP 100 5% 1/10W	
R2059	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2060	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2061	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2062	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2063	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2064	1-249-425-11	CARBON 4.7K 5% 1/4W	
R2065	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2066	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2067	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R2068	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2069	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2070	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R2071	1-216-839-11	METAL CHIP 33K 5% 1/10W	
R2072	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2073	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2074	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2075	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R2076	1-216-839-11	METAL CHIP 33K 5% 1/10W	
R2077	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2078	1-216-025-11	RES-CHIP 100 5% 1/10W	
R2079	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2080	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W	
R2081	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R2082	1-216-805-11	METAL CHIP 47 5% 1/10W	
R2083	1-216-817-11	METAL CHIP 470 5% 1/10W	
R2084	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2085	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2086	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2087	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2088	1-216-041-00	RES-CHIP 470 5% 1/10W	
R2089	1-216-041-00	RES-CHIP 470 5% 1/10W	
R2092	1-216-039-00	RES-CHIP 390 5% 1/10W	
R2093	1-216-039-00	RES-CHIP 390 5% 1/10W	
R2094	1-216-039-00	RES-CHIP 390 5% 1/10W	
R2095	1-216-039-00	RES-CHIP 390 5% 1/10W	
R2096	1-216-039-00	RES-CHIP 390 5% 1/10W	
R2097	1-216-039-00	RES-CHIP 390 5% 1/10W	
R2098	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2099	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2500	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R2501	1-216-341-11	METAL OXIDE 0.22 5% 1W	
R2502	1-208-810-11	METAL CHIP 15K 0.5% 1/10W	
R2503	1-208-810-11	METAL CHIP 15K 0.5% 1/10W	
R2504	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2507	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R2509	1-249-417-11	CARBON 1K 5% 1/4W	
R2511	1-216-073-91	RES-CHIP 10K 5% 1/10W	
R2516	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R2517	1-216-841-11	METAL CHIP 47K 5% 1/10W	
R2518	1-216-049-11	RES-CHIP 1K 5% 1/10W	
R2519	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R2520	1-216-025-11	RES-CHIP 100 5% 1/10W	
R2524	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R2525	1-216-828-11	METAL CHIP 3.9K 5% 1/10W	
R2912	1-216-295-91	SHORT CHIP 0	
R2914	1-216-853-11	METAL CHIP 470K 5% 1/10W	
R2921	1-216-295-91	SHORT CHIP 0	
R2924	1-216-295-91	SHORT CHIP 0	
R2927	1-216-295-91	SHORT CHIP 0	
R2930	1-216-295-91	SHORT CHIP 0	
R2933	1-216-295-91	SHORT CHIP 0	
R2936	1-216-295-91	SHORT CHIP 0	
R2939	1-216-295-91	SHORT CHIP 0	
R2942	1-216-295-91	SHORT CHIP 0	
R2945	1-216-295-91	SHORT CHIP 0	
R3000	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3001	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3009	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3010	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3011	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3012	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3013	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3014	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3015	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3016	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3017	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3018	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3019	1-216-022-00	RES-CHIP 75 5% 1/10W	

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REF.NO.	PART.NO	DESCRIPTION	REMARK
R3020	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3021	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3022	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3023	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3024	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3025	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3026	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3027	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3028	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3029	1-216-045-00	RES-CHIP 680 5% 1/10W	
R3030	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3031	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3032	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3033	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3034	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3035	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3036	1-216-022-00	RES-CHIP 75 5% 1/10W	
R3037	1-216-045-00	RES-CHIP 680 5% 1/10W	
R3218	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R3219	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R3220	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R3221	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R3222	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R3223	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R3225	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3226	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3229	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3233	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R3234	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R3235	1-216-822-11	METAL CHIP 1.2K 5% 1/10W	
R3236	1-216-822-11	METAL CHIP 1.2K 5% 1/10W	
R3237	1-216-797-11	METAL CHIP 10 5% 1/10W	
R3238	1-216-797-11	METAL CHIP 10 5% 1/10W	
R3305	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3306	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3312	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R3313	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R3314	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R3318	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3319	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3320	1-216-025-11	RES-CHIP 100 5% 1/10W	
R3403	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R3500	1-216-834-11	METAL CHIP 12K 5% 1/10W	
R3501	1-216-834-11	METAL CHIP 12K 5% 1/10W	
R3504	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R3505	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R3603	1-216-295-91	SHORT CHIP 0	
R5102	1-208-814-91	METAL CHIP 22K 0.5% 1/10W	
R5103	1-218-833-11	METAL CHIP 270 0.5% 1/10W	
R5107	1-208-814-91	METAL CHIP 22K 0.5% 1/10W	
R5111	1-208-814-91	METAL CHIP 22K 0.5% 1/10W	
R5112	1-218-875-11	METAL CHIP 15K 0.5% 1/10W	
R5118	1-249-411-11	CARBON 330 5% 1/4W	
R5119	1-216-844-11	METAL CHIP 82K 5% 1/10W	
R5122	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R5125	1-216-836-11	METAL CHIP 18K 5% 1/10W	
R5126	1-249-406-11	CARBON 120 5% 1/4W	
R5127	1-216-025-11	RES-CHIP 100 5% 1/10W	
R5128	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5129	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5130	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5131	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R5132	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5133	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5137	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5138	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5139	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R5140	1-216-821-11	METAL CHIP 1K 5% 1/10W	
R5146	1-216-025-11	RES-CHIP 100 5% 1/10W	
R5148	1-216-809-11	METAL CHIP 100 5% 1/10W	
R5149	1-218-833-11	METAL CHIP 270 0.5% 1/10W	
R5150	1-249-414-11	CARBON 560 5% 1/4W	
R5151	1-249-454-11	CARBON 3.9 5% 1/4W	
R5152	1-249-413-11	CARBON 470 5% 1/4W	
R5153	1-249-393-11	CARBON 10 5% 1/4W	
R5154	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R5155	1-249-421-11	CARBON 2.2K 5% 1/4W	
R5156	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R5157	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R5301	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R5302	1-208-806-11	METAL CHIP 10K 0.5% 1/10W	
R5304	1-208-806-11	METAL CHIP 10K 0.5% 1/10W	
R5305	1-208-852-11	METAL CHIP 820K 0.5% 1/10W	
R5306	1-218-867-11	METAL CHIP 6.8K 0.5% 1/10W	
R5307	1-216-041-00	RES-CHIP 470 5% 1/10W	
R5308	1-216-295-91	SHORT CHIP 0	
R5309	1-208-824-11	METAL CHIP 56K 0.5% 1/10W	
R5310	1-208-830-11	METAL CHIP 100K 0.5% 1/10W	
R5311	1-216-045-00	RES-CHIP 680 5% 1/10W	
R5312	1-208-832-11	METAL CHIP 120K 0.5% 1/10W	
R5314	1-208-840-11	METAL CHIP 270K 0.5% 1/10W	
R5315	1-216-043-91	RES-CHIP 560 5% 1/10W	
R5316	1-216-057-00	RES-CHIP 2.2K 5% 1/10W	
R5317	1-216-845-11	METAL CHIP 100K 5% 1/10W	
R5319	1-208-840-11	METAL CHIP 270K 0.5% 1/10W	
R5320	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R5321	1-216-837-11	METAL CHIP 22K 5% 1/10W	
R5322	1-216-820-11	METAL CHIP 820 5% 1/10W	
R5324	1-208-810-11	METAL CHIP 15K 0.5% 1/10W	
R5325	1-208-812-11	METAL CHIP 18K 0.5% 1/10W	

REF.NO.	PART.NO	DESCRIPTION			REMARK
R5326	1-216-845-11	METAL CHIP	100K	5%	1/10W
R5328	1-216-033-00	RES-CHIP	220	5%	1/10W
R5331	1-216-033-00	RES-CHIP	220	5%	1/10W
R5332	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5333	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R5336	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5337	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R5338	1-249-413-11	CARBON	470	5%	1/4W
R5342	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5343	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R5344	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R5345	1-208-832-11	METAL CHIP	120K	0.5%	1/10W
R5346	1-216-849-11	METAL CHIP	220K	5%	1/10W
R5347	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5349	1-216-043-91	RES-CHIP	560	5%	1/10W
R5350	1-216-041-00	RES-CHIP	470	5%	1/10W
R5351	1-216-809-11	METAL CHIP	100	5%	1/10W
R5352	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5401	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5402	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5403	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5404	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5405	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5408	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R5409	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5411	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R5413	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5414	1-249-383-11	CARBON	1.5	5%	1/4W
R5415	1-249-389-11	CARBON	4.7	5%	1/4W
R5416	1-215-888-00	METAL OXIDE	220	5%	2W
R5420	1-214-798-21	METAL	1.8	1%	1/2W
R5421	1-214-798-21	METAL	1.8	1%	1/2W
R5804	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5805	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5806	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5807	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5808	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5809	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5865	1-216-841-11	METAL CHIP	47K	5%	1/10W
R5869	1-216-817-11	METAL CHIP	470	5%	1/10W
R5871	1-216-850-11	METAL CHIP	270K	5%	1/10W
R5872	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5873	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5875	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R5879	1-216-809-11	METAL CHIP	100	5%	1/10W
R5880	1-216-809-11	METAL CHIP	100	5%	1/10W
R5881	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5882	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5884	1-216-841-11	METAL CHIP	47K	5%	1/10W
R5885	1-216-809-11	METAL CHIP	100	5%	1/10W
R5887	1-216-809-11	METAL CHIP	100	5%	1/10W
R5888	1-216-809-11	METAL CHIP	100	5%	1/10W
R5889	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5892	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5895	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5898	1-216-832-11	METAL CHIP	8.2K	5%	1/10W
R5899	1-216-863-11	METAL CHIP	3.3M	5%	1/10W
R6200	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R6201	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R6202	1-249-395-11	CARBON	15	5%	1/4W
R7007	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7018	1-216-025-11	RES-CHIP	100	5%	1/10W
R7023	1-216-834-11	METAL CHIP	12K	5%	1/10W
R7034	1-216-025-11	RES-CHIP	100	5%	1/10W
R7035	1-216-025-11	RES-CHIP	100	5%	1/10W
R7048	1-216-025-11	RES-CHIP	100	5%	1/10W
R7050	1-216-833-11	METAL CHIP	10K	5%	1/10W
R7051	1-216-025-11	RES-CHIP	100	5%	1/10W
R7052	1-216-025-11	RES-CHIP	100	5%	1/10W
R7053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7054	1-216-847-11	METAL CHIP	150K	5%	1/10W
R7056	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R7057	1-216-842-11	METAL CHIP	56K	5%	1/10W
R7058	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7065	1-216-821-11	METAL CHIP	1K	5%	1/10W
R7066	1-216-809-11	METAL CHIP	100	5%	1/10W
R7068	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7070	1-216-817-11	METAL CHIP	470	5%	1/10W
R7071	1-216-817-11	METAL CHIP	470	5%	1/10W
R7072	1-216-817-11	METAL CHIP	470	5%	1/10W
R7073	1-216-041-00	RES-CHIP	470	5%	1/10W
R7074	1-216-043-91	RES-CHIP	560	5%	1/10W
R7075	1-216-817-11	METAL CHIP	470	5%	1/10W
R7076	1-216-041-00	RES-CHIP	470	5%	1/10W
R7077	1-216-043-91	RES-CHIP	560	5%	1/10W
R7078	1-216-817-11	METAL CHIP	470	5%	1/10W
R7079	1-216-041-00	RES-CHIP	470	5%	1/10W
R7080	1-216-043-91	RES-CHIP	560	5%	1/10W
R7081	1-216-817-11	METAL CHIP	470	5%	1/10W
R7082	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R7088	1-208-783-11	METAL CHIP	1.1K	0.5%	1/10W
R7089	1-216-819-11	METAL CHIP	680	5%	1/10W
R7090	1-216-819-11	METAL CHIP	680	5%	1/10W
R7091	1-216-819-11	METAL CHIP	680	5%	1/10W
R7092	1-216-295-91	SHORT CHIP	0		
R7093	1-216-295-91	SHORT CHIP	0		
R7094	1-216-295-91	SHORT CHIP	0		
R7095	1-216-295-91	SHORT CHIP	0		
R7096	1-216-803-11	METAL CHIP	33	5%	1/10W
R7097	1-216-803-11	METAL CHIP	33	5%	1/10W
R7098	1-216-803-11	METAL CHIP	33	5%	1/10W

< FILTER >

SF1001	1-795-617-11	SAW FILTER	

< CRYSTAL >

X1001	1-767-704-11	VIBRATOR, CRYSTAL	
X2000	1-760-628-11	VIBRATOR, CRYSTAL	
X3200	1-781-946-21	VIBRATOR, CRYSTAL	
X5800	1-767-127-11	VIBRATOR, CERAMIC	

A Board Variant Parts KV28CS70

< CAPACITOR >

C5320	1-129-716-00	FILM	0.015UF	5.00%	630V
C5321	1-136-347-11	FILM	0.0047UF	5.00%	630V
C5853	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C5868	1-163-129-00	CERAMIC CHIP	330PF	5.00%	50V

< CONNECTOR >

CN1001	* 1-766-296-21	CONNECTOR, DUAL SCART	

< RESISTOR >

R5300	1-218-873-11	METAL CHIP	12K	0.5%	1/10W
R5303	NOT FITTED				
R5318	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5327	NOT FITTED				
R5334	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5335	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5340	1-216-057-11	RES-CHIP	2.2K	5%	1/10W
R5400	1-216-848-11	METAL CHIP	180K	5%	1/10W
R5407	1-216-854-11	METAL CHIP	560K	5%	1/10W
R5410	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R5417	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R5803	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R5877	1-216-821-11	METAL CHIP	1K	5%	1/10W
R5878	1-218-844-11	METAL CHIP	750	0.5%	1/10W
R5883	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R5890	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R5891	1-218-903-11	METAL CHIP	220K	0.5%	1/10W
R5893	1-216-845-11	METAL CHIP	100K	5%	1/10W
R5894	1-218-823-11	METAL CHIP	100	0.5%	1/10W
R5896	1-218-903-11	METAL CHIP	220K	0.5%	1/10W
R5897	1-218-823-11	METAL CHIP	100	0.5%	1/10W

A Board Variant Parts KV-32CS70

< CAPACITOR >

C5320	1-129-817-00	FILM	0.022UF	5.00%	630V
C5321	NOT FITTED				
C5853	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C5868	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

< CONNECTOR >

CN1001	* 1-766-296-41	CONNECTOR, DUAL SCART	

< RESISTOR >

R5300	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R5303	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R5318	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5327	1-243-525-11	METAL OXIDE	33	5%	3W
R5334	1-208-834-11	METAL CHIP	150K	0.5%	1/10W
R5335	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5340	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5400	1-216-849-11	METAL CHIP	220K	5%	1/10W
R5407	1-216-857-11	METAL CHIP	1M	5%	1/10W
R5410	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R5417	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R5803	NOT FITTED				
R5877	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R5878	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5883	1-216-857-11	METAL CHIP	1M	5%	1/10W
R5890	NOT FITTED				
R5891	NOT FITTED				
R5893	NOT FITTED				
R5894	NOT FITTED				
R5896	NOT FITTED				
R5897	NOT FITTED				

A Board Variant Parts KV28CS70B

< FILTER >

SF1003	1-767-083-11	FILTER, SURFACE WAVE

< TUNER >

TU1001	8-598-623-10	TUNER, FSS BTP-AC421

A Board Variant Parts KV28CS70E

< FILTER >

SF1003	NOT FITTED	

< TUNER >

TU1001	8-598-623-10	TUNER, FSS BTP-AC421

A Board Variant Parts KV28CS70U

< FILTER >

SF1003	NOT FITTED	

A VM

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< TUNER >		
TU1001	8-598-624-10	TUNER, FSS BTP-AD621	

A Board Variant Parts KV32CS70B

	< FILTER >		
SF1003	1-767-083-11	FILTER, SURFACE WAVE	
	< TUNER >		
TU1001	8-598-623-10	TUNER, FSS BTP-AC421	

A Board Variant Parts KV32CS70E

	< FILTER >		
SF1003	NOT FITTED		
	< TUNER >		
TU1001	8-598-623-10	TUNER, FSS BTP-AC421	

A Board Variant Parts KV32CS70K

	< FILTER >		
SF1003	NOT FITTED		
	< TUNER >		
TU1001	8-598-623-10	TUNER, FSS BTP-AC421	

A Board Variant Parts KV32CS70U

	< FILTER >		
SF1003	NOT FITTED		
	< TUNER >		
TU1001	8-598-624-10	TUNER, FSS BTP-AD621	

*** A-1071-321-A VM Board Complete (KV-28CS70)**
*** A-1055-723-A VM Board Complete (KV-32CS70)**

VM Board Common Parts

	4-382-854-01	SCREW (M3X8), P, SW (+)	
	< CAPACITOR >		
C7401	1-126-935-11	ELECT 470UF	20.00% 16V
C7403	1-104-655-91	ELECT 470UF	20.00% 6.3V
C7404	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C7405	1-126-933-11	ELECT 100UF	20.00% 16V
C7406	1-104-655-91	ELECT 470UF	20.00% 6.3V
C7407	1-107-364-11	MYLAR 0.01UF	10.00% 200V
C7408	1-107-364-11	MYLAR 0.01UF	10.00% 200V
C7409	1-107-649-11	ELECT 2.2UF	20.00% 250V
C7410	1-130-471-00	MYLAR 0.001UF	5.00% 50V
C7411	1-130-471-00	MYLAR 0.001UF	5.00% 50V
C7412	1-126-935-11	ELECT 470UF	20.00% 16V
C7413	1-126-935-11	ELECT 470UF	20.00% 16V
C7414	1-107-652-11	ELECT 10UF	20.00% 250V
C7415	1-107-363-91	MYLAR 0.0068UF	10.00% 200V
C7418	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C7421	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C7501	1-130-495-00	MYLAR 0.1UF	5.00% 50V
	< CONNECTOR >		
CN7442	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN7443	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN7444	* 1-770-747-11	CONNECTOR, BOARD TO BOARD 12P	
CN7501	* 1-564-506-11	PLUG, CONNECTOR 3P	
	< DIODE >		
D7400	8-719-991-33	DIODE 1SS133T-77	
D7401	8-719-991-33	DIODE 1SS133T-77	
D7402	1-535-303-00	LEAD, JUMPER (5.0MM)	
D7403	8-719-991-33	DIODE 1SS133T-77	
D7404	8-719-991-33	DIODE 1SS133T-77	
D7405	8-719-924-11	DIODE MTLJ-T-77-22	
D7406	8-719-924-11	DIODE MTLJ-T-77-22	
	< FERRITE BEAD >		
FB7400	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB7401	1-535-303-00	LEAD, JUMPER (5.0MM)	
	< COIL >		
L7400	1-414-934-21	INDUCTOR 10UH	
L7402	1-414-934-21	INDUCTOR 10UH	
L7403	1-414-934-21	INDUCTOR 10UH	
	< TRANSISTOR >		
Q7400	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7401	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7402	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7403	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q7404	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q7405	8-729-026-39	TRANSISTOR 2SA933AS-QT	
Q7406	8-729-045-05	TRANSISTOR 2SA2005	
Q7407	8-729-045-04	TRANSISTOR 2SC5511	
Q7408	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q7409	8-729-010-29	TRANSISTOR MSD601-RST1	

VM D

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< RESISTOR >		
R7400	1-216-017-91	RES-CHIP 47 5%	1/10W
R7401	1-216-061-91	RES-CHIP 3.3K 5%	1/10W
R7402	1-216-041-00	RES-CHIP 470 5%	1/10W
R7403	1-249-393-11	CARBON 10 5%	1/4W
R7404	1-249-413-11	CARBON 470 5%	1/4W
R7405	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R7407	1-249-411-11	CARBON 330 5%	1/4W
R7409	1-216-029-00	RES-CHIP 150 5%	1/10W
R7410	1-216-017-91	RES-CHIP 47 5%	1/10W
R7411	1-216-017-91	RES-CHIP 47 5%	1/10W
R7412	1-216-017-91	RES-CHIP 47 5%	1/10W
R7413	1-249-414-11	CARBON 560 5%	1/4W
R7414	1-249-432-11	CARBON 18K 5%	1/4W
R7415	1-247-739-11	CARBON 100 5%	1/2W
R7416	1-249-389-11	CARBON 4.7 5%	1/4W
R7417	1-249-432-11	CARBON 18K 5%	1/4W
R7418	1-249-414-11	CARBON 560 5%	1/4W
R7419	1-249-421-11	CARBON 2.2K 5%	1/4W
R7420	1-249-421-11	CARBON 2.2K 5%	1/4W
R7421	1-249-389-11	CARBON 4.7 5%	1/4W
R7422	1-249-405-11	CARBON 100 5%	1/4W
R7423	1-215-915-11	METAL OXIDE 470 5%	3W
R7427	1-216-025-11	RES-CHIP 100 5%	1/10W
R7428	1-216-033-00	RES-CHIP 220 5%	1/10W
R7429	1-216-033-00	RES-CHIP 220 5%	1/10W
R7432	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R7433	1-249-395-11	CARBON 15 5%	1/4W
R7434	1-249-395-11	CARBON 15 5%	1/4W
R7435	1-216-033-00	RES-CHIP 220 5%	1/10W
R7436	1-216-049-11	RES-CHIP 1K 5%	1/10W
R7501	1-216-295-91	SHORT CHIP 0	

VM Board Variant Parts KV-28CS70

	< COIL >		
L7501	1-412-537-31	INDUCTOR 82UH	
L7502	1-406-977-21	INDUCTOR 100UH	

VM Board Variant Parts KV-28CS70

	< COIL >		
L7501	1-412-536-21	INDUCTOR 82UH	
L7502	1-406-976-11	INDUCTOR 68UH	

REF.NO.	PART.NO	DESCRIPTION	REMARK

*** A-1060-906-A D Board Complete KV-28CS70B**
*** A-1062-868-A D Board Complete KV-32CS70B**

D Board Common Parts

	4-382-854-01	SCREW (M3X8), P, SW (+)	
	< CAPACITOR >		
C8100	1-136-497-81	FILM 0.1UF	5.00% 50V
C8101	1-136-497-81	FILM 0.1UF	5.00% 50V
C8102	1-136-497-81	FILM 0.1UF	5.00% 50V
C8103	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8104	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8105	1-126-947-11	ELECT 47UF	20.00% 35V
C8108	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C8109	1-126-947-11	ELECT 47UF	20.00% 35V
C8113	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C8114	1-126-964-11	ELECT 10UF	20.00% 50V
C8115	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C8116	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8117	1-115-416-11	CERAMIC CHIP 0.001UF	5.00% 25V
C8118	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C8119	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C8125	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C8126	1-165-176-11	CERAMIC CHIP 0.047UF	10.00% 16V
C8128	1-162-968-11	CERAMIC CHIP 0.0047UF	10.00% 50V
C8132	1-164-230-11	CERAMIC CHIP 220PF	5.00% 50V
C8134	1-102-937-00	CERAMIC 4PF	0.25PF 50V
C8135	1-126-964-11	ELECT 10UF	20.00% 50V
C8136	1-126-964-11	ELECT 10UF	20.00% 50V
C8140	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C8209	1-164-315-11	CERAMIC CHIP 470PF	5.00% 50V
C8210	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8801	1-126-947-11	ELECT 47UF	20.00% 35V
C8802	1-126-960-11	ELECT 1UF	20.00% 50V
C8803	1-126-960-11	ELECT 1UF	20.00% 50V
C8804	1-102-114-00	CERAMIC 470PF	10.00% 50V
C8805	1-102-114-00	CERAMIC 470PF	10.00% 50V
C8808	1-102-030-00	CERAMIC 330PF	10.00% 500V
C8809	1-102-030-00	CERAMIC 330PF	10.00% 500V
C8810	1-107-368-11	MYLAR 0.047UF	10.00% 200V
C8811	1-107-368-11	MYLAR 0.047UF	10.00% 200V
C8816	1-162-964-11	CERAMIC CHIP 0.001UF	10.00% 50V
C8817	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8818	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8819	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8820	1-125-893-11	FILM 680PF	3.00% 1.5KV
C8824	1-107-846-11	FILM 0.1UF	5.00% 400V
C8826	1-115-519-11	FILM 0.56UF	5.00% 250V
C8828	1-127-681-11	FILM 10000PF	2% 100V

REF.NO.	PART.NO	DESCRIPTION			REMARK
C8829	1-127-680-11	FILM	4700PF	2%	100V
C8830	1-107-655-11	ELECT	47UF	20.00%	250V
C8831	1-102-228-00	CERAMIC	470PF	10.00%	500V
C8832	1-126-941-11	ELECT	470UF	20.00%	25V
C8833	1-126-941-11	ELECT	470UF	20.00%	25V
C8834	1-102-228-00	CERAMIC	470PF	10.00%	500V
C8835	1-102-228-00	CERAMIC	470PF	10.00%	500V
C8836	1-123-024-21	ELECT	330F		160V
C8837	1-106-375-12	MYLAR	0.022UF	5.00%	200V
C8841	1-126-947-11	ELECT	47UF	20.00%	35V
C8844	1-117-660-21	FILM	0.12UF	5.00%	250V
C8852	1-162-129-00	CERAMIC	150PF	10.00%	2KV
C8855	1-136-205-11	MYLAR	0.022UF	5.00%	630V
C8861	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
		< CONNECTOR >			
CN8600	* 1-817-037-61	PLUG, CONNECTOR 6P			
CN8601	* 1-816-980-71	PLUG, CONNECTOR 3P			
CN8611	* 1-785-270-12	PIN, DY CONNECTOR (PC BOARD)			
CN8612	* 1-816-979-51	PLUG, CONNECTOR 8P			
CN8614	* 1-564-508-11	PLUG, CONNECTOR 5P			
CN8616	1-695-915-11	TAB (CONTACT)			
CN8620	1-764-333-11	PIN, CONNECTOR(PCB) (V TYPE)			10P
CN8810	* 1-564-510-11	PLUG, CONNECTOR 7P			
		< DIODE >			
D8102	8-719-081-97	DIODE MMDL914T1			
D8103	8-719-081-97	DIODE MMDL914T1			
D8104	8-719-081-97	DIODE MMDL914T1			
D8105	8-719-081-97	DIODE MMDL914T1			
D8107	8-719-081-97	DIODE MMDL914T1			
D8108	8-719-921-40	DIODE MTZJ-4.7C			
D8128	8-719-081-97	DIODE MMDL914T1			
D8132	8-719-081-97	DIODE MMDL914T1			
D8133	8-719-081-97	DIODE MMDL914T1			
D8199	8-719-081-97	DIODE MMDL914T1			
D8611	8-719-081-97	DIODE MMDL914T1			
D8612	8-719-081-97	DIODE MMDL914T1			
D8803	8-719-200-02	DIODE 10E-2			
D8805	8-719-302-43	DIODE EL1Z			
D8806	8-719-979-85	DIODE EGP20G			
D8807	8-719-510-73	DIODE S3L20UF4			
D8808	8-719-510-73	DIODE S3L20UF4			
D8811	8-719-110-41	DIODE RD15ESB2			
D8818	8-719-109-89	DIODE RD5.6ESB2			
D8819	8-719-050-38	DIODE MIMA152WK-T1			
D8820	8-719-081-97	DIODE MMDL914T1			
D8851	8-719-970-87	DIODE ERA38-06			
D8860	8-719-110-41	DIODE RD15ESB2			

REF.NO.	PART.NO	DESCRIPTION		REMARK
		< FERRITE BEAD >		
FB8806	1-535-303-00	LEAD, JUMPER (5.0MM)		
FB8807	1-535-303-00	LEAD, JUMPER (5.0MM)		
		< IC >		
IC8100	8-759-659-67	IC LA6393DLL		
IC8101	8-759-659-67	IC LA6393DLL		
IC8102	8-759-638-79	IC NJM3404AD-W		
IC8103	8-759-659-67	IC LA6393DLL		
		< COIL >		
L8801	1-410-397-21	FERRITE	1.1UH	
L8802	1-410-397-21	FERRITE	1.1UH	
L8803	1-410-397-21	FERRITE	1.1UH	
L8805	1-408-947-00	INDUCTOR	2.2MH	
L8851	1-535-303-00	LEAD, JUMPER	(5.0MM)	
		< INDUCTOR >		
LF8801	1-419-482-11	INDUCTOR	1.5MH	
		< TRANSISTOR >		
Q8100	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8101	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8102	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8103	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8104	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8105	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8106	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8107	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8108	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8110	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8112	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8113	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8115	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8118	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8119	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8120	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8122	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8123	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8125	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8126	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8127	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8128	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8132	8-729-421-19	TRANSISTOR UN2213		
Q8135	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8136	8-729-010-05	TRANSISTOR MSB709-RT1		
Q8137	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8201	8-729-010-29	TRANSISTOR MSD601-RST1		
Q8202	8-729-010-29	TRANSISTOR MSD601-RST1		

REF.NO.	PART.NO	DESCRIPTION			REMARK
Q8455	8-729-010-29	TRANSISTOR MSD601-RST1			
Q8801	8-729-048-47	TRANSISTOR 2SC2688(5)-LK			
Q8802	8-729-048-47	TRANSISTOR 2SC2688(5)-LK			
Q8803	8-729-056-16	TRANSISTOR 2SC5698-SONY-CA			
Q8804	8-729-056-17	TRANSISTOR 2SC5696-SONY-CA			
Q8805	8-729-050-48	TRANSISTOR IRF614-005			
Q8806	8-729-047-59	TRANSISTOR STP5NB40FP			
Q8807	8-729-421-19	TRANSISTOR UN2213			
Q8822	8-729-010-29	TRANSISTOR MSD601-RST1			
Q8823	8-729-424-08	TRANSISTOR UN2111			
Q8851	6-550-012-01	TRANSISTOR STP5NB40(033Y)			
		< RESISTOR >			
R8100	1-216-813-11	METAL CHIP	220	5%	1/10W
R8101	1-216-813-11	METAL CHIP	220	5%	1/10W
R8102	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8103	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8104	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8105	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8106	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8107	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R8108	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R8109	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8111	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8112	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8113	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8114	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8115	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8116	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8117	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8118	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8119	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8120	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8121	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8122	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8123	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8124	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8125	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8126	1-216-815-11	METAL CHIP	330	5%	1/10W
R8128	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8129	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8130	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R8131	1-216-815-11	METAL CHIP	330	5%	1/10W
R8132	1-216-815-11	METAL CHIP	330	5%	1/10W
R8133	1-216-815-11	METAL CHIP	330	5%	1/10W
R8136	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8137	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8138	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8139	1-208-822-11	METAL CHIP	47K	0.5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8140	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8143	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8145	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8146	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8153	1-216-295-91	SHORT CHIP	0		
R8162	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8163	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8165	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R8168	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8169	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R8170	1-216-815-11	METAL CHIP	330	5%	1/10W
R8171	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8174	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8180	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8181	1-216-295-91	SHORT CHIP	0		
R8182	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8183	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8188	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8190	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8191	1-215-925-11	METAL OXIDE	22K	5%	3W
R8196	1-249-377-11	CARBON	0.47	5%	1/4W
R8197	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8210	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8211	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8212	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8217	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8456	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8457	1-216-834-11	METAL CHIP	12K	5%	1/10W
R8458	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8459	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8800	1-247-895-91	CARBON	470K	5%	1/4W
R8805	1-249-408-11	CARBON	180	5%	1/4W
R8807	1-249-411-11	CARBON	330	5%	1/4W
R8808	1-260-340-11	CARBON	10K	5%	1/2W
R8809	1-260-340-11	CARBON	10K	5%	1/2W
R8811	1-243-587-11	METAL OXIDE	8.2K	5%	2W
R8814	1-215-880-00	METAL OXIDE	10	5%	2W
R8815	1-215-880-00	METAL OXIDE	10	5%	2W
R8816	1-216-365-00	METAL OXIDE	0.47	5%	2W
R8817	1-216-361-00	METAL OXIDE	0.22	5%	2W
R8818	1-249-405-11	CARBON	100	5%	1/4W
R8819	1-247-807-31	CARBON	100	5%	1/4W
R8831	1-260-124-11	CARBON	120K	5%	1/2W
R8833	1-202-972-61	FUSIBLE	1	5%	1/4W
R8834	1-260-288-11	CARBON	0.47	5%	1/2W
R8835	1-260-288-11	CARBON	0.47	5%	1/2W
R8837	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R8838	1-214-905-11	METAL	47K	1%	1/2W
R8839	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R8842	1-260-123-11	CARBON	100K	5%	1/2W

Note : The components identified by shading and marked ▲ are critical for safety. Replace only with the part numbers specified in the parts list.

D

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8844	1-216-838-11	METAL CHIP	27K	5%	1/10W
R8851	1-260-123-11	CARBON	100K	5%	1/2W
R8852	1-260-123-11	CARBON	100K	5%	1/2W
R8853	1-260-123-11	CARBON	100K	5%	1/2W
R8854	1-249-425-11	CARBON	4.7K	5%	1/4W
R8859	1-243-616-71	METAL OXIDE	6.8K	5%	3W
R8865	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8866	1-216-295-91	SHORT CHIP	0		
R8867	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8869	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8870	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8885	1-208-854-11	METAL CHIP	1M	0.5%	1/10W
R8886	1-208-836-11	METAL CHIP	180K	0.5%	1/10W
R8887	1-216-841-11	METAL CHIP	47K	5%	1/10W
R8888	1-249-441-11	CARBON	100K	5%	1/4W
R8895	1-249-443-11	CARBON	0.47	5%	1/4W
R8896	1-249-443-11	CARBON	0.47	5%	1/4W
R8898	1-215-493-00	METAL	1M	1%	1/4W
R8899	1-215-493-00	METAL	1M	1%	1/4W

< TRANSFORMER >

▲ T8800	1-453-216-11	TRANSFORMER,VERT.FLYBACK KV-1522/1528	
T8801	1-437-430-11	TRANSFORMER, FERRITE (HDT)	
T8802	1-437-430-11	TRANSFORMER, FERRITE (HDT)	
T8852	1-437-690-11	TRANSFORMER, FERRITE (DFT)	

D Board Variant Parts KV-28CS70

< CAPACITOR >

C8106	1-162-963-11	CERAMIC CHIP	680PF	10.00%	50V
C8107	NOT FITTED				
C8112	1-100-683-91	CERAMIC CHIP	100PF	10.00%	2KV
C8120	NOT FITTED				
C8124	NOT FITTED				
C8131	NOT FITTED				
C8141	NOT FITTED				
C8207	NOT FITTED				
C8208	NOT FITTED				
C8812	NOT FITTED				
C8813	1-104-332-11	CERAMIC	470PF	10.00%	2KV
C8814	1-117-631-31	FILM	5600PF	3.00%	1.2KV
C8815	1-117-633-11	FILM	3900PF	3.00%	1.2KV
C8825	1-117-633-11	FILM	3900PF	3.00%	1.2KV
C8827	1-119-858-11	FILM	0.068UF	5.00%	250V
C8840	NOT FITTED				
C8851	1-162-131-11	CERAMIC	220PF	10.00%	2KV
C8853	1-136-535-91	FILM	0.0018UF	5.00%	630V
C8860	NOT FITTED				
C8869	NOT FITTED				

REF.NO.	PART.NO	DESCRIPTION			REMARK
		< DIODE >			
D8129	NOT FITTED				
D8198	NOT FITTED				
D8856	NOT FITTED				
D8857	NOT FITTED				
D8858	NOT FITTED				
		< INDUCTOR >			
LF8851	1-406-674-11	INDUCTOR	3.3MH		
		< TRANSISTOR >			
Q8203	NOT FITTED				
		< RESISTOR >			
R8110	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R8127	1-208-794-11	METAL CHIP	3.3K	0.5%	1/10W
R8141	NOT FITTED				
R8142	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R8144	1-216-849-11	METAL CHIP	220K	5%	1/10W
R8149	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8150	1-216-837-11	METAL CHIP	22K	5%	1/10W
R8154	1-218-857-11	METAL CHIP	2.7	0.5%	1/10W
R8155	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8158	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R8159	1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R8160	1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R8161	1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R8164	NOT FITTED				
R8175	NOT FITTED				
R8176	1-216-864-11	SHORT CHIP	0		
R8177	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R8179	NOT FITTED				
R8186	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R8189	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R8203	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R8204	NOT FITTED				
R8205	NOT FITTED				
R8206	1-216-853-11	METAL CHIP	470K	5%	1/10W
R8207	1-218-907-11	METAL CHIP	330K	0.5%	1/10W
R8209	NOT FITTED				
R8215	NOT FITTED				
R8216	NOT FITTED				
R8219	NOT FITTED				
R8220	1-218-855-11	METAL CHIP	2.2K	0.5%	1/10W
R8221	1-218-891-11	METAL CHIP	68K	0.5%	1/10W
R8222	NOT FITTED				
R8223	NOT FITTED				
R8224	NOT FITTED				
R8804	NOT FITTED				

D

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8806	NOT FITTED				
R8810	1-243-610-11	METAL OXIDE	2.2K	5%	3W
R8812	1-243-614-11	METAL OXIDE	4.7K	5%	3W
R8813	1-243-614-11	METAL OXIDE	4.7K	5%	3W
R8836	1-249-432-11	CARBON	18K	5%	1/4W
R8840	1-247-843-11	CARBON	3.3K	5%	1/4W
R8843	NOT FITTED				
R8845	NOT FITTED				
R8856	1-243-616-71	METAL OXIDE	6.8K	5%	3W
R8857	1-243-614-11	METAL OXIDE	4.7K	5%	3W
R8858	1-243-614-11	METAL OXIDE	4.7K	5%	3W
R8897	1-215-485-00	METAL	470K	1%	1/4W

D Board Variant Parts KV-32CS70

< CAPACITOR >

C8106	1-115-416-11	CERAMIC CHIP	0.001UF	5.00%	25V
C8107	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
C8112	1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C8120	1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C8124	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8131	1-126-964-11	ELECT	10UF	20.00%	50V
C8141	1-136-497-81	FILM	0.1UF	5.00%	50V
C8207	1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C8208	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8812	1-131-984-91	CERAMIC	330PF	10%	2KV
C8813	1-131-984-91	CERAMIC	330PF	10.00%	2KV
C8814	1-117-637-31	FILM	5600PF	3.00%	1.2KV
C8815	1-117-831-31	FILM	4300PF	3.00%	1.5KV
C8825	1-107-846-11	FILM	0.1UF	5.00%	400V
C8827	1-119-860-11	FILM	0.082UF	5.00%	250V
C8840	1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C8851	1-162-129-00	CERAMIC	150PF	10.00%	2KV
C8853	1-129-898-00	FILM	0.0022UF	5.00%	630V
C8860	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C8869	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V

< DIODE >

D8129	8-719-081-97	DIODE MMDL914T1
D8198	1-414-934-21	INDUCTOR 10UH
D8856	8-719-081-97	DIODE MMDL914T1
D8857	8-719-110-41	DIODE RD15ESB2
D8858	8-719-081-97	DIODE MMDL914T1

< INDUCTOR >

LF8851	1-406-673-11	INDUCTOR 2.2MH

< TRANSISTOR >

Q8203	8-729-010-05	TRANSISTOR MSB709-RT1

REF.NO.	PART.NO	DESCRIPTION			REMARK
		< RESISTOR >			
R8110	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8127	1-218-859-11	METAL CHIP	3.3K	0.5%	1/10W
R8141	1-216-839-11	METAL CHIP	33K	5%	1/10W
R8142	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8144	1-216-845-11	METAL CHIP	100K	5%	1/10W
R8149	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R8150	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R8154	1-216-818-11	METAL CHIP	560	5%	1/10W
R8155	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8158	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8159	1-216-295-91	SHORT CHIP	0		
R8160	1-208-794-11	METAL CHIP	3.3K	0.5%	1/10W
R8161	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R8164	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8175	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R8176	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8177	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R8179	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R8186	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R8189	1-216-818-11	METAL CHIP	560	5%	1/10W
R8203	1-216-295-91	SHORT CHIP	0		
R8204	1-216-295-91	SHORT CHIP	0		
R8205	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R8206	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R8207	1-216-853-11	METAL CHIP	470K	5%	1/10W
R8209	1-216-295-91	SHORT CHIP	0		
R8215	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8216	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8219	1-216-842-11	METAL CHIP	56K	5%	1/10W
R8220	1-216-839-11	METAL CHIP	33K	5%	1/10W
R8221	1-216-085-91	RES-CHIP	33K	5%	1/10W
R8222	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
R8223	1-216-851-11	METAL CHIP	330K	5%	1/10W
R8224	1-216-851-11	METAL CHIP	330K	5%	1/10W
R8804	1-249-408-11	CARBON	180	5%	1/4W
R8806	1-249-411-11	CARBON	330	5%	1/4W
R8810	1-243-612-11	METAL OXIDE	3.3K	5%	3W
R8812	1-243-587-11	METAL OXIDE	8.2K	5%	2W
R8813	1-243-613-11	METAL OXIDE	3.9K	5%	3W
R8836	1-249-425-11	CARBON	4.7K	5%	1/4W
R8840	1-249-421-11	CARBON	2.2K	5%	1/4W
R8843	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8845	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8856	1-243-615-11	METAL OXIDE	5.6K	5%	3W
R8857	1-243-616-71	METAL OXIDE	6.8K	5%	3W
R8858	1-243-615-11	METAL OXIDE	5.6K	5%	3W
R8897	1-215-489-00	METAL	680K	1%	1/4W

Note : The components identified by shading and marked △ are critical for safety. Replace only with the part numbers specified in the parts list.

G

REF.NO.	PART.NO	DESCRIPTION			REMARK
*** A-1300-179-A G Board Complete**					
	4-382-854-01	SCREW (M3X8), P, SW (+)			
	4-382-854-01	SCREW (M3X8), P, SW (+)			
		< CAPACITOR >			
C6001 △	1-164-324-11	MYLAR	0.1UF	10	275V
C6002 △	1-164-324-11	MYLAR	0.1UF	10	275V
C6003 △	1-119-994-11	CERAMIC	1000PF	10.00%	250V
C6004 △	1-119-994-11	CERAMIC	1000PF	10.00%	250V
C6005	1-126-965-91	ELECT	22UF	20.00%	50V
C6006	1-117-753-11	ELECT(BLOCK)	470UF	20.00%	450V
C6007	1-126-964-11	ELECT	10UF	20.00%	50V
C6008	1-126-963-11	ELECT	4.7UF	20.00%	50V
C6010	1-136-497-81	FILM	0.1UF	5.00%	50V
C6011	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6012 △	1-164-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6013 △	1-164-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6015	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6016 △	1-164-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6017 △	1-164-571-91	CERAMIC	0.0015UF	10.00%	2KV
C6018	1-126-949-11	ELECT	220UF	20.00%	35V
C6020	1-135-946-22	FILM	47000PF	3%	800V
C6021	1-164-645-11	CERAMIC	1000PF	10.00%	500V
C6022	1-126-963-11	ELECT	4.7UF	20.00%	50V
C6023	1-110-626-11	ELECT	330UF	20.00%	160V
C6024	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6025	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6026	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6027	1-164-625-11	CERAMIC	680PF	10.00%	500V
C6028	1-128-548-11	ELECT	4700UF	20.00%	25V
C6029	1-126-939-11	ELECT	10000UF	20.00%	16V
C6030	1-119-940-51	ELECT	4700UF	20.00%	50V
C6031	1-535-143-71	LEAD, JUMPER (7.5MM)			
C6032 △	1-115-371-11	CERAMIC	0.01UF		250V
C6033	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6034	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C6035	1-136-497-81	FILM	0.1UF	5.00%	50V
C6036	1-136-479-11	FILM	0.001UF	5.00%	100V
C6037	1-126-947-11	ELECT	47UF	20.00%	35V
C6038	1-164-645-11	CERAMIC	1000PF	10.00%	500V
C6039	1-125-891-11	CERAMIC CHIP	0.47UF	10.00%	10V
C6040	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C6045	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6102	1-126-943-11	ELECT	2200UF	20.00%	25V
C6103	1-126-971-11	ELECT	470UF	20.00%	50V
C6105	1-126-964-11	ELECT	10UF	20.00%	50V
C6106	1-126-964-11	ELECT	10UF	20.00%	50V

REF.NO.	PART.NO	DESCRIPTION	REMARK
		< CONNECTOR >	
CN6001 △	* 1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
CN6002 △	* 1-568-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN6003 △	* 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN6004 △	* 1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
CN6005	* 1-817-037-61	PLUG, CONNECTOR 6P	
CN6006	* 1-564-516-11	PLUG, CONNECTOR 13P	
CN6008	* 1-564-507-11	PLUG, CONNECTOR 4P	
		< DIODE >	
D6001	6-500-067-01	DIODE GSIB460L/45	
D6002	8-719-982-26	DIODE MTLJ-33B	
D6004	8-719-979-64	DIODE DF4005PKG23	
D6006	8-719-081-97	DIODE MMDL914T1	
D6007	8-719-081-97	DIODE MMDL914T1	
D6008	8-719-063-70	DIODE D1NL20U	
D6009	8-719-110-41	DIODE RD15ESB2	
D6010	8-719-085-24	DIODE FBIU4D7M1-B	
D6016	8-719-060-88	DIODE D4SB86	
D6031	8-719-080-59	DIODE EK19-V0	
D6032	8-719-080-59	DIODE EK19-V0	
D6033	8-719-022-97	DIODE D2S4MF	
D6034	8-719-022-97	DIODE D2S4MF	
D6035	1-535-303-00	LEAD, JUMPER (5.0MM)	
D6036	1-216-295-91	SHORT CHIP 0	
D6101	8-719-081-97	DIODE MMDL914T1	
D6102	8-719-511-40	DIODE S1VB40	
D6103	8-719-081-97	DIODE MMDL914T1	
D6104	8-719-081-97	DIODE MMDL914T1	
D6105	8-719-081-97	DIODE MMDL914T1	
D6106	8-719-081-97	DIODE MMDL914T1	
D6107	8-719-081-97	DIODE MMDL914T1	
		< FERRITE BEAD >	
FB6002	1-410-397-21	FERRITE 1.1UH	
FB6003	1-410-397-21	FERRITE 1.1UH	
FB6005	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB6006	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< IC >	
IC6001	8-759-670-30	IC MC23001D	
IC6003	8-749-016-19	IC SE135N-LF4	
		< COIL >	
L6001	1-406-663-21	INDUCTOR 47UH	
L6002	1-412-529-11	INDUCTOR 22UH	
L6003	1-412-529-11	INDUCTOR 22UH	
L6004	1-535-303-00	LEAD, JUMPER (5.0MM)	
L6005	1-535-303-00	LEAD, JUMPER (5.0MM)	

Note : The components identified by shading and marked △ are critical for safety. Replace only with the part numbers specified in the parts list.

G M

REF.NO.	PART.NO	DESCRIPTION	REMARK
L6006	1-406-659-11	INDUCTOR 10UH	
L6007	1-412-525-31	INDUCTOR 10UH	
		< PHOTOCOUPLER >	
PH6001 △	8-749-016-21	IC PC817L1036	
		< TRANSISTOR >	
Q6003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q6005	8-729-029-56	TRANSISTOR DTA144ESA	
Q6006	6-550-698-01	TRANSISTOR SPA08M50C3-E8152	
Q6007	6-550-698-01	TRANSISTOR SPA08M50C3-E8152	
Q6010	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6101	8-729-029-56	TRANSISTOR DTA144ESA	
Q6102	8-729-010-29	TRANSISTOR MSD601-RST1	
Q6103	8-729-029-56	TRANSISTOR DTA144ESA	
Q6104	8-729-010-29	TRANSISTOR MSD601-RST1	
Q6105	8-729-010-29	TRANSISTOR MSD601-RST1	
		< RESISTOR >	
JR6004	1-216-295-91	SHORT CHIP 0	
R6003 △	1-202-963-51	FUSIBLE 0.1	10% 1/2W
R6004 △	1-205-998-11	CEMENTED 1	5% 10W
R6005 △	1-205-998-11	CEMENTED 1	5% 10W
R6006 △	1-205-998-11	CEMENTED 1	5% 10W
R6007	1-243-979-21	METAL OXIDE 0.1	5% 2W
R6008	1-243-979-21	METAL OXIDE 0.1	5% 2W
R6009	1-216-687-11	METAL CHIP 33K	0.5% 1/10W
R6010	1-215-481-00	METAL 330K	1% 1/4W
R6013 △	1-218-265-11	METAL 6.2K	5% 1W
R6014	1-215-926-00	METAL OXIDE 33K	5% 3W
R6015	1-208-757-11	METAL CHIP 91	0.5% 1/10W
R6016	1-216-821-11	METAL CHIP 1K	5% 1/10W
R6017	1-216-833-11	METAL CHIP 10K	5% 1/10W
R6018	1-260-131-11	CARBON 470K	5% 1/2W
R6019	1-260-129-11	CARBON 330K	5% 1/2W
R6020	1-216-820-11	METAL CHIP 820	5% 1/10W
R6021	1-216-362-11	METAL OXIDE 0.27	5% 2W
R6022	1-216-833-11	METAL CHIP 10K	5% 1/10W
R6024	1-216-615-11	METAL CHIP 33	0.5% 1/10W
R6029	1-216-833-11	METAL CHIP 10K	5% 1/10W
R6030	1-216-817-11	METAL CHIP 470	5% 1/10W
R6032	1-249-417-11	CARBON 1K	5% 1/4W
R6033	1-215-481-00	METAL 330K	1% 1/4W
R6034	1-249-389-11	CARBON 4.7	5% 1/4W
R6035	1-260-083-11	CARBON 47	5% 1/2W
R6036	1-216-817-11	METAL CHIP 470	5% 1/10W
R6037	1-249-405-11	CARBON 100	5% 1/4W
R6038	1-208-830-11	METAL CHIP 100K	0.5% 1/10W
R6039	1-208-830-11	METAL CHIP 100K	0.5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK
R6040	1-208-814-91	METAL CHIP 22K	0.5% 1/10W
R6042	1-216-295-91	SHORT CHIP 0	
R6045	1-216-639-11	METAL CHIP 330	0.5% 1/10W
R6047	1-216-681-11	METAL CHIP 18K	0.5% 1/10W
R6048	1-215-481-00	METAL 330K	1% 1/4W
R6049	1-208-805-11	METAL CHIP 9.1K	0.5% 1/10W
R6050	1-208-758-11	METAL CHIP 100	0.5% 1/10W
R6054	1-216-615-11	METAL CHIP 33	0.5% 1/10W
R6056	1-216-295-91	SHORT CHIP 0	
R6057	1-208-798-11	METAL CHIP 4.7K	0.5% 1/10W
R6101	1-216-821-11	METAL CHIP 1K	5% 1/10W
R6102	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R6103	1-216-821-11	METAL CHIP 1K	5% 1/10W
R6104	1-216-821-11	METAL CHIP 1K	5% 1/10W
R6105	1-216-821-11	METAL CHIP 1K	5% 1/10W
R6106	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R6107	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R6108	1-216-821-11	METAL CHIP 1K	5% 1/10W
R6109	1-216-829-11	METAL CHIP 4.7K	5% 1/10W
R6110	1-216-821-11	METAL CHIP 1K	5% 1/10W
		< RELAY >	
RY6001 △	1-755-395-11	RELAY (AC POWER)	
RY6002 △	1-755-395-11	RELAY (AC POWER)	
		< TRANSFORMER >	
T6002 △	1-437-443-11	TRANSFORMER, CONVERTER (FIT)	
T6003 △	1-424-896-11	TRANSFORMER, LINE FILTER	
T6101 △	1-437-483-11	TRANSFORMER, STANDBY	
		< THERMISTOR >	
TH6002 △	1-804-854-11	THERMISTOR, POSITIVE	
*** A-1300-287-A M Board Complete**			
		< CAPACITOR >	
C0001	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C0002	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C0004	1-164-360-11	CERAMIC CHIP 0.1UF	16V
C0006	1-126-923-91	ELECT 220UF	20.00% 10V
C0007	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C0008	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C0009	1-165-128-11	CERAMIC CHIP 0.22UF	16V
C0010	1-162-927-11	CERAMIC CHIP 100PF	5.00% 50V
C0011	1-165-128-11	CERAMIC CHIP 0.22UF	16V
C0012	1-162-924-11	CERAMIC CHIP 56PF	5.00% 50V
C0013	1-165-128-11	CERAMIC CHIP 0.22UF	16V
C0015	1-135-834-91	CERAMIC CHIP 2200000PF	6.3V
C0016	1-165-128-11	CERAMIC CHIP 0.22UF	16V
C0017	1-162-924-11	CERAMIC CHIP 56PF	5.00% 50V
C0019	1-165-128-11	CERAMIC CHIP 0.22UF	16V

M

REF.NO.	PART.NO	DESCRIPTION	REMARK
C0020	1-162-923-11	CERAMIC CHIP 47PF	5.00% 50V
C0025	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C0026	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C0027	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C0028	1-126-947-11	ELECT 47UF	20.00% 35V
	< CONNECTOR >		
CN0001	* 1-793-497-11	CONNECTOR, BOARD TO BOARD 40P	
	< DIODE >		
D0001	6-500-079-01	DIODE BAS40-05E6327	
D0301	8-719-069-56	DIODE UDZSTE-176.2B	
	< FERRITE BEAD >		
FB0003	1-216-295-91	SHORT CHIP 0	
FB0004	1-412-006-31	INDUCTOR 10UH	
FB0005	1-216-864-11	SHORT CHIP 0	
FB0006	1-216-864-11	SHORT CHIP 0	
FB0007	1-412-006-31	INDUCTOR 10UH	
FB0008	1-216-295-91	SHORT CHIP 0	
FB0009	1-412-006-31	INDUCTOR 10UH	
FB0010	1-216-295-91	SHORT CHIP 0	
FB0011	1-412-006-31	INDUCTOR 10UH	
FB0012	1-216-295-91	SHORT CHIP 0	
FB0015	1-216-864-11	SHORT CHIP 0	
FB0016	1-216-864-11	SHORT CHIP 0	
FB0017	1-216-295-91	SHORT CHIP 0	
FB0018	1-216-295-91	SHORT CHIP 0	
FB0019	1-216-295-91	SHORT CHIP 0	
FB0020	1-216-295-91	SHORT CHIP 0	
	< IC >		
IC0001	8-759-699-33	IC M24C16-MN6T(A)	
IC0002	6-702-496-03	IC SAA5667HL/M1/1400	
IC0003	8-759-672-39	IC PST573DMT	
IC0004	8-759-665-11	IC LM393DT	
IC0005	6-702-395-01	IC K6F2008V2E-YF70T	
	< TRANSISTOR >		
Q0002	8-729-424-08	TRANSISTOR UN2111	
Q0003	8-729-424-08	TRANSISTOR UN2111	
Q0006	8-729-010-29	TRANSISTOR MSD601-RST1	
Q0007	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0008	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0009	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0010	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0011	8-729-010-29	TRANSISTOR MSD601-RST1	
Q0012	8-729-424-08	TRANSISTOR UN2111	
Q0013	8-729-421-22	TRANSISTOR UN2211	

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< RESISTOR >		
R0001	1-216-045-00	RES-CHIP 680 5%	1/10W
R0002	1-216-055-00	RES-CHIP 1.8K 5%	1/10W
R0003	1-216-025-11	RES-CHIP 100 5%	1/10W
R0011	1-216-025-11	RES-CHIP 100 5%	1/10W
R0014	1-216-081-00	RES-CHIP 22K 5%	1/10W
R0016	1-216-025-11	RES-CHIP 100 5%	1/10W
R0017	1-216-093-91	RES-CHIP 68K 5%	1/10W
R0018	1-216-025-11	RES-CHIP 100 5%	1/10W
R0019	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0020	1-216-049-11	RES-CHIP 1K 5%	1/10W
R0022	1-216-809-11	METAL CHIP 100 5%	1/10W
R0023	1-216-097-11	RES-CHIP 100K 5%	1/10W
R0027	1-216-821-11	METAL CHIP 1K 5%	1/10W
R0028	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0029	1-216-025-11	RES-CHIP 100 5%	1/10W
R0030	1-216-025-11	RES-CHIP 100 5%	1/10W
R0032	1-216-809-11	METAL CHIP 100 5%	1/10W
R0033	1-216-809-11	METAL CHIP 100 5%	1/10W
R0034	1-218-725-11	METAL CHIP 24K 0.5%	1/10W
R0035	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R0037	1-216-061-91	RES-CHIP 3.3K 5%	1/10W
R0039	1-216-809-11	METAL CHIP 100 5%	1/10W
R0040	1-216-809-11	METAL CHIP 100 5%	1/10W
R0041	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R0042	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R0043	1-216-803-11	METAL CHIP 33 5%	1/10W
R0044	1-216-025-11	RES-CHIP 100 5%	1/10W
R0045	1-216-803-11	METAL CHIP 33 5%	1/10W
R0046	1-216-803-11	METAL CHIP 33 5%	1/10W
R0047	1-216-810-11	METAL CHIP 120 5%	1/10W
R0048	1-216-809-11	METAL CHIP 100 5%	1/10W
R0049	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0050	1-216-810-11	METAL CHIP 120 5%	1/10W
R0051	1-216-835-11	METAL CHIP 15K 5%	1/10W
R0052	1-216-810-11	METAL CHIP 120 5%	1/10W
R0053	1-216-809-11	METAL CHIP 100 5%	1/10W
R0054	1-216-809-11	METAL CHIP 100 5%	1/10W
R0055	1-216-809-11	METAL CHIP 100 5%	1/10W
R0056	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0057	1-216-809-11	METAL CHIP 100 5%	1/10W
R0058	1-216-823-11	METAL CHIP 1.5K 5%	1/10W
R0059	1-216-841-11	METAL CHIP 47K 5%	1/10W
R0060	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0061	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0062	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0063	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0065	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0066	1-218-871-11	METAL CHIP 10K 0.5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

M C

REF.NO.	PART.NO	DESCRIPTION	REMARK
R0067	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0068	1-216-833-11	METAL CHIP 10K 5%	1/10W
R0069	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0070	1-216-025-11	RES-CHIP 100 5%	1/10W
R0071	1-216-809-11	METAL CHIP 100 5%	1/10W
R0072	1-216-809-11	METAL CHIP 100 5%	1/10W
R0073	1-216-809-11	METAL CHIP 100 5%	1/10W
R0074	1-216-809-11	METAL CHIP 100 5%	1/10W
R0075	1-216-025-11	RES-CHIP 100 5%	1/10W
R0076	1-216-049-11	RES-CHIP 1K 5%	1/10W
R0078	1-216-817-11	METAL CHIP 470 5%	1/10W
R0079	1-216-065-91	RES-CHIP 4.7K 5%	1/10W
R0301	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0302	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0303	1-216-836-11	METAL CHIP 18K 5%	1/10W
R0304	1-218-867-11	METAL CHIP 6.8K 0.5%	1/10W
	< CRYSTAL >		
X0001	1-578-774-71	VIBRATOR, CRYSTAL	

*** A-1303-026-A C Board Complete**

	4-382-854-01	SCREW (M3X8), P, SW (+)	
	< CAPACITOR >		
C7303	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C7304	1-107-967-11	ELECT 1UF	20.00% 400V
C7305	1-136-207-11	MYLAR 0.047UF	5.00% 630V
C7306	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C7308	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C7309	1-163-035-00	CERAMIC CHIP 0.047UF	50V
C7310	1-163-247-91	CERAMIC CHIP 68PF	5.00% 50V
C7325	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C7326	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C7329	1-107-967-11	ELECT 1UF	20.00% 400V
C7330	1-136-207-11	MYLAR 0.047UF	5.00% 630V
C7331	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C7333	1-163-035-00	CERAMIC CHIP 0.047UF	50V
C7334	1-163-247-91	CERAMIC CHIP 68PF	5.00% 50V
C7350	1-126-947-11	ELECT 47UF	20.00% 35V
C7351	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C7352	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C7354	1-126-933-11	ELECT 100UF	20.00% 16V
C7355	1-107-967-11	ELECT 1UF	20.00% 400V
C7356	1-136-207-11	MYLAR 0.047UF	5.00% 630V
C7358	1-162-909-11	CERAMIC CHIP 4PF	0.25PF 50V
C7359	1-163-035-00	CERAMIC CHIP 0.047UF	50V
C7360	1-163-247-91	CERAMIC CHIP 68PF	5.00% 50V
C7378	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C7379	1-162-114-00	CERAMIC 0.0047UF	2KV

REF.NO.	PART.NO	DESCRIPTION	REMARK
C7380	1-107-655-11	ELECT 47UF	20.00% 250V
C7384	1-162-911-11	CERAMIC CHIP 6PF	0.50PF 50V
C7385	1-162-913-11	CERAMIC CHIP 8PF	0.50PF 50V
C7387	1-162-911-11	CERAMIC CHIP 6PF	0.50PF 50V
C7388	1-162-913-11	CERAMIC CHIP 8PF	0.50PF 50V
C7390	1-162-911-11	CERAMIC CHIP 6PF	0.50PF 50V
C7391	1-162-913-11	CERAMIC CHIP 8PF	0.50PF 50V
	< CONNECTOR >		
CN7300	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN7301	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN7311	1-695-915-11	TAB (CONTACT)	
CN7333	1-695-915-11	TAB (CONTACT)	
	< DIODE >		
D7300	8-719-911-19	DIODE 1SS119-25	
D7325	8-719-911-19	DIODE 1SS119-25	
D7350	8-719-911-19	DIODE 1SS119-25	
D7375	8-719-991-33	DIODE 1SS133T-77	
D7376	8-719-991-33	DIODE 1SS133T-77	
D7378	8-719-109-89	DIODE RD5.6ESB2	
D7379	8-719-109-89	DIODE RD5.6ESB2	
D7380	8-719-302-43	DIODE KL1Z	
D7381	8-719-302-43	DIODE KL1Z	
D7382	8-719-302-43	DIODE KL1Z	
	< IC >		
IC7300	8-759-360-83	IC TDA6111Q/N4	
IC7325	8-759-360-83	IC TDA6111Q/N4	
IC7350	8-759-360-83	IC TDA6111Q/N4	
	< SOCKET >		
	< COIL >		
L7375	1-410-671-31	INDUCTOR 47UH	
L7378	1-414-934-21	INDUCTOR 10UH	
	< TRANSISTOR >		
Q7350	8-729-901-06	TRANSISTOR DTA144EK	
Q7352	8-729-421-19	TRANSISTOR UN2213	
Q7353	8-729-421-19	TRANSISTOR UN2213	
Q7354	8-729-901-06	TRANSISTOR DTA144EK	
Q7355	8-729-421-19	TRANSISTOR UN2213	
	< RESISTOR >		
R7300	1-249-417-11	CARBON 1K 5%	1/4W
R7302	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7303	1-216-824-11	METAL CHIP 1.8K 5%	1/10W

Note : The components identified by shading and marked △ are critical for safety. Replace only with the part numbers specified in the parts list.

C F5

REF.NO.	PART.NO	DESCRIPTION	REMARK
R7304	1-260-095-11	CARBON 470 5% 1/2W	
R7305	1-215-903-11	METAL OXIDE 68K 5% 2W	
R7306	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7309	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7310	1-216-819-11	METAL CHIP 680 5% 1/10W	
R7325	1-249-417-11	CARBON 1K 5% 1/4W	
R7327	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7328	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7329	1-260-095-11	CARBON 470 5% 1/2W	
R7330	1-215-903-11	METAL OXIDE 68K 5% 2W	
R7331	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7334	1-216-819-11	METAL CHIP 680 5% 1/10W	
R7335	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7350	1-249-417-11	CARBON 1K 5% 1/4W	
R7355	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7356	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7357	1-260-095-11	CARBON 470 5% 1/2W	
R7358	1-215-903-11	METAL OXIDE 68K 5% 2W	
R7360	1-535-303-00	LEAD, JUMPER (5.0MM)	
R7363	1-216-819-11	METAL CHIP 680 5% 1/10W	
R7364	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7373	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
R7374	1-216-819-11	METAL CHIP 680 5% 1/10W	
R7375	1-249-435-11	CARBON 33K 5% 1/4W	
R7376	1-249-429-11	CARBON 10K 5% 1/4W	
R7377	1-249-430-11	CARBON 12K 5% 1/4W	
R7379	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R7380	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R7381	1-216-833-11	METAL CHIP 10K 5% 1/10W	
R7382	1-202-549-00	SOLID 100 20% 1/2W	
R7383	1-216-349-00	METAL OXIDE 1 5% 1W	
R7385	1-202-549-00	SOLID 100 20% 1/2W	
R7387	1-247-735-11	CARBON 47 5% 1/2W	
R7388	1-535-143-51	LEAD, JUMPER (20.0MM)	
R7389	1-247-881-00	CARBON 120K 5% 1/4W	
R7390	1-249-417-11	CARBON 1K 5% 1/4W	
R7391	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7392	1-216-819-11	METAL CHIP 680 5% 1/10W	
R7393	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
R7394	1-249-417-11	CARBON 1K 5% 1/4W	
R7395	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
R7396	1-216-819-11	METAL CHIP 680 5% 1/10W	
R7397	1-216-823-11	METAL CHIP 1.5K 5% 1/10W	
R7398	1-249-417-11	CARBON 1K 5% 1/4W	
R7399	1-216-824-11	METAL CHIP 1.8K 5% 1/10W	
		< RESISTOR VARIABLE >	
RV7375	1-241-656-11	RES, ADJ, METAL FILM 110M	

REF.NO.	PART.NO	DESCRIPTION	REMARK
*** A-1410-981-A F5 Board Complete**			
	4-206-220-01	HOLDER, LED	
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE	
		< CAPACITOR >	
C1100	1-126-969-11	ELECT 220UF 20.00% 50V	
C1101	1-113-924-11	CERAMIC 0.0047UF 20.00% 250V	
		< CONNECTOR >	
CN1101	* 1-580-797-11	SOCKET, CONNECTOR 4P	
[illegible]			
CN6101	1-695-915-11	TAB (CONTACT)	
[illegible]			
		< DIODE >	
D1100	8-719-109-89	DIODE RD5.6ESB2	
D6401	8-719-081-56	DIODE L-59SRSGC-CC	
		< FUSE >	
[illegible]			
F6001 △	1-533-725-11	FUSE HOLDER	
		< IC >	
IC6400	8-742-180-30	HYB IC SRX3081-51(30)	
		< TRANSISTOR >	
Q1100	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q1101	8-729-027-43	TRANSISTOR DTC114EKA-T146	
		< RESISTOR >	
R1100	1-216-813-11	METAL CHIP 220 5% 1/10W	
R1101	1-216-815-11	METAL CHIP 330 5% 1/10W	
R1102	1-216-829-11	METAL CHIP 4.7K 5% 1/10W	
R1103	1-216-841-11	METAL CHIP 47K 5% 1/10W	
R1104	1-216-813-11	METAL CHIP 220 5% 1/10W	
R1105	1-216-825-11	METAL CHIP 2.2K 5% 1/10W	
R1106	1-216-809-11	METAL CHIP 100 5% 1/10W	
R6100 △	1-202-719-00	SOLID 1K 10% 1/2W	
		< SWITCH >	
S6100 △	1-571-433-21	SWITCH, AC POWER PUSH	
		< VARISTOR >	
VD6100 △	1-803-830-11	VARISTOR (ERZV14D621)	

Note : The components identified by shading and marked △ are critical for safety. Replace only with the part numbers specified in the parts list.

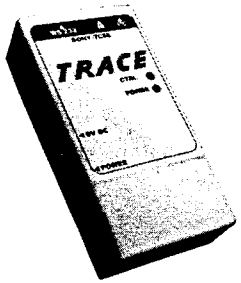
H6

REF.NO.	PART.NO	DESCRIPTION	REMARK
*** A-1415-840-A H6 Board Complete**			
		< CAPACITOR >	
C4500	1-102-106-00	CERAMIC 100PF 10.00% 50V	
C4501	1-126-960-11	ELECT 1UF 20.00% 50V	
C4503	1-102-106-00	CERAMIC 100PF 10.00% 50V	
C4504	1-126-960-11	ELECT 1UF 20.00% 50V	
		< CONNECTOR >	
CN4501	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN4502	* 1-816-977-51	PLUG, CONNECTOR 6P	
		< DIODE >	
D4500	8-719-929-15	DIODE HZS9.1NB2	
D4501	8-719-929-15	DIODE HZS9.1NB2	
D4502	8-719-109-97	DIODE RD6.8ESB2	
D4503	8-719-109-97	DIODE RD6.8ESB2	
		< SOCKET >	
J4500	1-794-442-11	TERMINAL BLOCK (LIGHT ANGLE),S	
J4501	1-750-264-31	JACK	
		< COIL >	
L4501	1-408-603-31	INDUCTOR 10UH	
L4502	1-408-603-31	INDUCTOR 10UH	
L5400	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< RESISTOR >	
R4500	1-247-895-91	CARBON 470K 5% 1/4W	
R4501	1-247-807-31	CARBON 100 5% 1/4W	
R4502	1-247-895-91	CARBON 470K 5% 1/4W	
R4503	1-247-807-31	CARBON 100 5% 1/4W	
R4506	1-249-406-11	CARBON 120 5% 1/4W	
R4507	1-249-406-11	CARBON 120 5% 1/4W	
R4508	1-249-406-11	CARBON 120 5% 1/4W	
R4509	1-249-406-11	CARBON 120 5% 1/4W	
R4510	1-249-427-11	CARBON 6.8K 5% 1/4W	
R4511	1-247-843-11	CARBON 3.3K 5% 1/4W	
R4512	1-249-431-11	CARBON 15K 5% 1/4W	
R4513	1-215-445-00	METAL 10K 1% 1/4W	
R4514	1-249-419-11	CARBON 1.5K 5% 1/4W	
R4515	1-535-303-00	LEAD, JUMPER (5.0MM)	
		< SWITCH >	
S4500	1-762-816-11	SWITCH, TACTIL	
S4501	1-762-816-11	SWITCH, TACTIL	
S4502	1-762-816-11	SWITCH, TACTIL	

REF.NO.	PART.NO	DESCRIPTION	REMARK
MISCELLANEOUS			
△	1-571-433-21	SWITCH, PUSH (AC POWER)	
△	1-776-204-12	CORD, POWER FILTER (KV-28CS70)	
△	1-765-286-11	CORD, POWER (KV-32CS70)	
	8-598-623-10	TUNER, FSS BTP-AC421 (KV-28CS70B/E & KV-32CS70B/E/K)	
	8-598-624-10	TUNER, FSS BTP-AU621 (KV-28CS70U & KV-32CS70U)	
[illegible]			
	1-424-855-11	COIL, CHOKE 29MH	
	1-825-859-11	LOUDSPEAKER (5.5X15CM)	
	*1-825-860-11	WOOFER ASSY	
[illegible]			
	1-452-363-11	COIL HA ROTATION (RT-200) (KV-28CS70)	
	1-419-896-11	COIL HA ROTATION (RT-200) (KV-32CS70)	
[illegible]			
	1-452-014-11	CIRCULAR DISC MAGNET B	
	1-452-032-00	MAGNET, DISK	
ACCESSORIES AND PACKAGING MATERIALS			
	*4-102-984-01	INDIVIDUAL CARTON (KV-28CS70)	
	*4-102-975-01	INDIVIDUAL CARTON (KV-32CS70)	
	*4-102-985-01	CUSHION UPPER (KV-28CS70)	
	*4-102-976-01	CUSHION UPPER (KV-32CS70)	
	*4-102-986-01	CUSHION LOWER (KV-28CS70)	
	*4-102-977-01	CUSHION LOWER (KV-32CS70)	
	*4-395-957-01	BAG, PROTECTION (KV-28CS70)	
	*4-046-772-01	BAG, PROTECTION (KV-32CS70B, E & K)	
	*4-029-168-01	BAG, PROTECTION (KV-32CS70U)	
	2-055-142-11	INSTRUCTION MANUAL (DUTCH/ITALIAN/FRENCH/GERMAN) (KV-28/32CS70B)	
	2-055-142-21	INSTRUCTION MANUAL (ENGLISH) (KV-28/32CS70B)	
	2-055-142-31	INSTRUCTION MANUAL (GERMAN/TURKISH/GREEK) (KV-28/32CS70E)	
	2-055-142-41	INSTRUCTION MANUAL (ITALIAN) (KV-28/32CS70E)	
	2-055-142-51	INSTRUCTION MANUAL (SWEDISH/FINNISH/ DANISH/ SPANISH/NORWEGIAN/PORTUGUESE) (KV-28/32CS70E)	
	2-055-142-61	INSTRUCTION MANUAL (RUSSIAN/POLISH/ HUNGARIAN/ENGLISH/CZECH/BULGARIAN) (KV-32CS70K)	
	2-055-142-71	INSTRUCTION MANUAL (ENGLISH) (KV-28/32CS70U)	
REMOTE COMMANDER			
	1-478-514-11	REMOTE COMMANDER (RM-947) (KV-28CS70B & E KV-32CS70B, E & K)	
	1-476-702-31	REMOTE COMMANDER (RM-932) (KV-28/32CS70U)	

TRACE

A new TV Repair Assistance Tool that combines ease of use and powerful PC software tools to allow you to save valuable time during many TV repairs.



The TRACE interface connects to the PC's serial port. It provides connection to the TV's I^2C bus and can be provided with an InfraRed transmitter (optional).

The interface is powered by a standard 9 V PP3 battery for portable use, and can also be powered by an external 9V/25mA DC power supply.

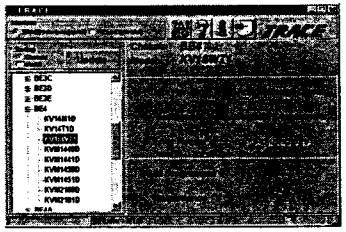
The TRACE software that is supplied with the interface allows you to:

- Read, restore and compare NVM contents via the I^2C bus
- Acknowledge check of all I^2C devices in the TV set
- Read Error Codes (emulation of the Error Reader tool)

With the optional IR Add-on kit, the following features can be added:

- Remote Commander emulation
- User programmable Functional Check through Infrared
- Fast and documented Test Mode setting of all Sony TV chassis

Additional features such as Adjustments and Troubleshooting are available in chassis-dependent software modules. Please contact your local Sony Service organisation for the latest information.



Note: For workshops already using the existing I^2C Link parallel port interface (9-948-320-30), this software can be used as well, replacing the TV Data Handling software (9-948-340-50), but Error Reader and IR functions can only be accessed with the TRACE interface.

Partnumbers: TRACE Starter Kit (TRACE interface + software): 9-948-320-70
TRACE Software (for users of the I^2C Link interface): 9-948-340-80
TRACE IR Add-on (IR interface + Remote Commander software): 9-948-320-80

PC requirements: IBM-compatible PC with operating system Windows95, Windows98, or WindowsNT*.

* WindowsNT only supported with TRACE interface

9-927-491-01

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Sony UK
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